FY05 as of May 2004

Fort Carson
Installation Action Plan

FY05 as of May 2004

Fort Carson

Colorado

Installation Action Plan

Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year restoration program for an installation. The plan will define all Installation Restoration Program (IRP) requirements and propose a comprehensive approach and associated costs to conduct future investigations and remedial actions at each Solid Waste Management Unit (SWMU) at the installation and other areas of concern.

In an effort to coordinate planning information between the IRP manager, major army commands (MACOMs), installations, executing agencies, regulatory agencies, and the public, an IAP has been completed for Fort Carson. The IAP is used to track requirements, schedules and tentative budgets for all major Army installation restoration programs.

All site specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change during the document's annual review. Under current project funding, all remedies will be in place at Fort Carson by the end of 2011.

The following agencies contributed to the formulation and completion of this Installation Action Plan:

AEC Western Region Office

Colorado Department of Public Health and Environment

Fort Carson Restoration Advisory Board, Community Co-Chair

Fort Carson, DECAM

Engineering & Environment, Inc. (supporting AEC)

Engineering & Environment, Inc. (supporting AEC)

Fort Carson/PBC-APLEN

Fort Carson IRP

Fort Carson, SJA

PPC/AEC support to PBC

U.S. Army Environmental Center

U.S. Army Corps of Engineers, Omaha District

US EPA Region 8

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Acronyms & Abbreviations

AAA	Army Audit Agency
AAF	Army Air Field
AAFES	Army, Air Force Exchange Services
AEC	Army Environmental Center
AEDB-R	Army Environmental DataBase- Restoration
AFB	Air Force Base
ARCOM	Army Reserve Command
AST	Aboveground Storage Tank
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
C/D	Construction/Demolition
CA	Corrective Action
CDLE	Colorado Department of Labor and Employment
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CENWO	U.S. Army Corps of Engineers, Omaha District
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CERL	U.S. Army Corps of Engineers Research Laboratory
CGWS	Colorado Groundwater Standards
CLA	Combined Landfill Area
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operations)
CMS	Corrective Measure Study
COC	Contaminant of Concern
COE	U.S. Army Corps of Engineers
CY	Cubic Yards
DA	Department of the Army
DCA	Dichloroethane
DD	Decision Document
DECAM	Directorate of Environmental Compliance and Management
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DES	Design
DIO	Directorate of Industrial Operations
DNT	Dinitrotoluene
DOD	Department of Defense
DPW	Directorate of Public Works
DRM	Directorate of Resource Management
DRMO	Defense Reutilization and Marketing Office
ECAS	Environmental Compliance Assessment System
EI	Environmental Indicators
EOD	Explosive Ordnance Division
EPR	Environmental Program Requirements (A-106)
ER,A	Environmental Restoration, Army
ET	Evapo-Transpiration
FFA	Federal Facilities Agreement
FFCA	Federal Facilities Compliance Agreement
FORSCOM	U.S. Army Forces Command
FOS	Free-Oil Separator
FS	Feasibility Study
FTC	Fort Carson

Acronyms & Abbreviations

FY	Fiscal Year
GPRA	Government Performance and Response Act
GW	Groundwater
HRC	Hydrogen Releasing Compound
HRS	Hazard Ranking System
HW	Hazardous Waste
IAG	Interagency Agreement
IAP	Installation Action Plan
IRA	Interim Remedial Action
IRP	Installation Restoration Program
IWTP	Industrial Wastewater Treatment Plant
JP8	jet propellant 8 (aviation fuel)
LF	Landfill
LTM	Long-Term Monitoring
LTO	Long-Term Operation
MATES	Mobilization and Training Equipment Site
MCL	Maximum Contaminant Level
MOGAS	automotive fuel (gasoline)
NE	Not Evaluated
NFA	No Further Action
NOV	Notice of Violation
NPL	National Priorities List
OB/OD	Open Burning / Open Detonation
OMA	Operations and Maintenance - Army
OPS	Office of Public Safety, Part of CDLE- Formerly Oil Inspection Section (OIS)
ORC®	Oxygen Releasing Compound®
OWS	Oil and Water Separator
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PCE	Perchloroethylene
PCMS	Pinon Canyon Manuver Site
PCP	pentachlorophenol
POL	Petroleum, Oil and Lubricants
PPB	Parts Per Billion
PPM	Parts Per Million
PRB	Permeable Reactive Barrier
PY	Prior Year
QCSR	Quality Control Summary Report
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RBC	Risk-Based Concentration
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine (Royal Demolition Explosive)
REM	Removal
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation

Acronyms & Abbreviations

RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
S&A	Supervision and Administration
S&R	Supervision and Remediation
SAP	Satellite Accumulation Point
SEP	Supplemental Environmental Project
SI	Site Inspection
STP	Sewage Treatment Plant
SVOC	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TBA	to be announced
TCA	1,1,1-Trichloroethane
TCE	Trichloroethylene
TCLP	Toxicity Characteristic Leachate Procedure
TDS	Total Dissolved Solid
TERC	Total Environmental Restoration Contract
TNT	Trinitrotoluene
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
USAAA	United States Army Audit Agency
USACE	United States Army Corps of Engineers
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USACIDC	United States Army Criminal Investigation Division Command
USAEC	United States Army Environmental Center
USAEHA	United States Army Environmental Hygiene Agency (Now USACHPPM)
USATHMA	United States Army Toxic and Hazardous Material Agency (replaced by AEC)
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compounds
WWTP	Waste Water Treatment Plant

SWMU # to FTC

SWMU-1	FTC-005	Landfill #1
SWMU-2	FTC-006	Landfill #2
SWMU-3	FTC-007	Landfill #3 (Combined with SWMU #2)
SWMU-4	FTC-008	Landfill #4
SWMU-5	FTC-009	Landfill #5
SWMU-6	FTC-010	Landfill #6
SWMU-7	FTC-011	Landfill #7
SWMU-8	FTC-012	Landfill #8
SWMU-9	FTC-013	Landfill #9
SWMU-10	FTC-014	Landfill #10
SWMU-11	FTC-015	Landfill #11
SWMU-12	FTC-016	Landfill #12
SWMU-13	FTC-020	Grit Oil Pit
SWMU-14	FTC-026	Pete's Hill
SWMU-15	NO FTC	Turkey Creek Ranch Trash Dump
SWMU-16	FTC-058	Vapor Degreaser
SWMU-17	FTC-058	Jet Spray Washers
SWMU-18	FTC-079	Sludge Trench Pit
SWMU-19	FTC-047	Land Spreading Area
SWMU-20	FTC-030	Boiler and Waste Oil Storage Tanks at Bldg. 1860
SWMU-21	FTC-031/059	Industrial Waste Water Treatment Facilities
SWMU-22	FTC-042	Sewage Treatment Plant
SWMU-23	FTC-039	Sewage Treatment Lagoons at Butts Army Airfield
SWMU-24	FTC-021/022	Fire Training Area and Storage Area
SWMU-25	FTC-040	Open Dumping Area at Range #121
SWMU-26	FTC-073	Equalization Basin
SWMU-27	FTC-044	Drainage Ditch at Bldg. 301
SWMU-28	FTC-045A	Battery Shop at Bldg. 8000
SWMU-29	FTC-045B	Battery Shop at Bldg. 8030
SWMU-30	FTC-045C	Battery Shop at Bldg. 8142
SWMU-31	FTC-048	Demolition Area
SWMU-32	FTC-036	Golf Course Holding Pond
SMWU-33	FTC-034	Golf Course Sewage Spreading Area
SWMU-34	FTC-032	Vehicle Wash Rack Drainages
SWMU-35	FTC-074	New Central Wash Rack
SWMU-36	FTC-075	Old Central Wash Rack
SWMU-37	FTC-046	Veterinary Clinic Incinerator
SWMU-38	FTC-049	Commissary Incinerator
SWMU-39	FTC-050	Classified Document Incinerator at Bldg. 1430
SWMU-40	FTC-051	Classified Document Incinerator at Bldg. 1800
SWMU-41	FTC-038	Silver Recovery Unit at Bldg. 6001
SWMU-42	FTC-037	Silver Recovery Unit at Bldg. 6270
SWMU-43	FTC-035	Silver Recovery Unit at Bldg. 6001
SWMU-44	FTC-028	Silver Recovery Unit at Bldg. 6001
SWMU-45	FTC-017	Range #1 Open Burn Grounds
SWMU-46	FTC-018	Range #1A Open Burn Grounds
SWMU-47	FTC-019	Range #121 Open Detonation Grounds
SWMU-48	FTC-027	Range #123 Open Burn Grounds
SWMU-49	FTC-025	Happy Hollow Haz. Waste and PCB Storage Facility
SWMU-50	FTC-024	DRMO Inactive Haz. Waste Storage Area

SWMU # to FTC

SWMU-51	FTC-043	DIO Haz. Waste Storage Area
SWMU-52	FTC-080	Happy Hollow 90-Day Haz. Waste Storage Area
SWMU-53	FTC-033	Former Waste Oil / Waste Solvent UST at Bldg. 8000
SWMU-54	FTC-041	Former Haz. Waste Storage Area at Bldg. 8000
SWMU-55	FTC-023	Used / Waste Oil Tank At Bldg. 523
SWMU-56	FTC-023	Used / Waste Oil Tank At Bldg. 301
SWMU-57	FTC-023	Used / Waste Oil Tank At Bldg. 635 / 631
SWMU-58	FTC-023	Used / Waste Oil Tank At Bldg. 218
SWMU-59	FTC-023	Used / Waste Oil Tank At Bldg.1302
SWMU-60	FTC-023	Used / Waste Oil Tank At Bldg. 1382
SWMU-61	FTC-023	Used / Waste Oil Tank At Bldg. 1515
SWMU-62	FTC-023	Used / Waste Oil Tank At Bldg. 1682
SWMU-63	FTC-023	Used / Waste Oil Tank At Bldg. 1692
SWMU-64	FTC-023	Used / Waste Oil Tank At Bldg. 1882
SWMU-65	FTC-023	Used / Waste Oil Tank At Bldg. 1982
SWMU-66	FTC-023	Used / Waste Oil Tank At Bldg. 2082
SWMU-67	FTC-023	Used / Waste Oil Tank At Bldg. 2239
SWMU-68	FTC-023	Used / Waste Oil Tank At Bldg. 2392
SWMU-69	FTC-023	Used / Waste Oil Tank At Bldg. 2434
SWMU-70	FTC-023	Used / Waste Oil Tank At Bldg. 2492
SWMU-71	FTC-023	Used / Waste Oil Tank At Bldg. 2692
SWMU-72	FTC-023	Used / Waste Oil Tank At Bldg. 2735
SWMU-73	FTC-023	Used / Waste Oil Tank At Bldg. 2792
SWMU-74	FTC-023	Used / Waste Oil Tank At Bldg. 2840
SWMU-75	FTC-023	Used / Waste Oil Tank At Bldg. 2940
SWMU-76	FTC-023	Used / Waste Oil Tank At Bldg. 2992
SWMU-77	FTC-023	Used / Waste Oil Tank At Bldg. 3092
SWMU-78	FTC-023	Used / Waste Oil Tank At Bldg. 3192
SWMU-79	FTC-023	Used / Waste Oil Tank At Bldg. 3292
SWMU-80	FTC-023	Used / Waste Oil Tank At Bldg. 3874
SWMU-81	FTC-023	Used / Waste Oil Tank At Bldg. 8142
SWMU-82	FTC-023	Used / Waste Oil Tank At Bldg. 8152
SWMU-83	FTC-023	Used / Waste Oil Tank At Bldg. 8200
SWMU-84	FTC-023	Used / Waste Oil Tank At Bldg. 8300
SWMU-85	FTC-023	Used / Waste Oil Tank At Bldg. 8930
SWMU-86	FTC-023	Used / Waste Oil Tank At Bldg. 9072
SWMU-87	FTC-023	Used / Waste Oil Tank At Bldg. 9603
SWMU-88	FTC-023	Used / Waste Oil Tank At Bldg. 9606
SWMU-89	FTC-023	Used / Waste Oil Tank At Bldg. 9609
SWMU-90	FTC-023	Used / Waste Oil Tank At Bldg. 9620
SWMU-91	FTC-023	Used / Waste Oil Tank At Bldg. 9628
SWMU-92	FTC-023	Used / Waste Oil Tank At Bldg. MPRC
SWMU-93	FTC-023	Used / Waste Oil Tank At Bldg. 804
SWMU-94	FTC-023	Used / Waste Oil Tank At Bldg. 1088
SWMU-95	FTC-023	Used / Waste Oil Tank At Bldg. 1304
SWMU-96	FTC-023	Used / Waste Oil Tank At Bldg. 1404
SWMU-97	FTC-023	Used / Waste Oil Tank At Bldg. 1515
SWMU-98	FTC-023	Used / Waste Oil Tank At Bldg. 1682
SWMU-99	FTC-023	Used / Waste Oil Tank At Bldg. 1682

SWMU # to FTC

SWMU-100	FTC-023	Used / Waste Oil Tank At Bldg. 1692
SWMU-101	FTC-023	Used / Waste Oil Tank At Bldg. 2082
SWMU-102	FTC-023	Used / Waste Oil Tank At Bldg. 2218
SWMU-103	FTC-023	Used / Waste Oil Tank At Bldg. 2239
SWMU-104	FTC-023	Used / Waste Oil Tank At Bldg. 2392
SWMU-105	FTC-023	Used / Waste Oil Tank At Bldg. 3669
SWMU-106	FTC-023	Used / Waste Oil Tank At Bldg. Range #123
SWMU-107	FTC-023	Used / Waste Oil Tank At Bldg. 639
SWMU-108	FTC-023	Used / Waste Oil Tank At Bldg. 749
SWMU-109	FTC-023	Used / Waste Oil Tank At Bldg. 1392
SWMU-110	FTC-023	Used / Waste Oil Tank At Bldg. 2427
SWMU-111	FTC-023	Used / Waste Oil Tank At Bldg. 8110
SWMU-112	NO FTC	Bldg. 9072 / SAP
SWMU-113	NO FTC	Bldg. 501 / SAP
SWMU-114	NO FTC	Bldg. 749 / SAP
SWMU-115	NO FTC	Bldg. 1682 / SAP
SWMU-116	NO FTC	Bldg. 8110 / SAP
SWMU-117	NO FTC	Range #145 / SAP
SWMU-118	NO FTC	Range #123 / SAP
SWMU-119	NO FTC	MPRC / SAP
SWMU-120	NO FTC	Bldg. 3669 / SAP
SWMU-121	NO FTC	Bldg. 7501 / SAP
SWMU-122	NO FTC	Bldg. 8007 / SAP
SWMU-123	NO FTC	Bldg. 1302 / SAP
SWMU-124	NO FTC	Seabees / SAP
SWMU-125	NO FTC	Bldg. 8030 / SAP
SWMU-126	NO FTC	Bldg. 8300 / SAP
SWMU-127	NO FTC	Bldg. 401 / SAP
SWMU-128	NO FTC	Bldg. 1692 / SAP
SWMU-129	NO FTC	Bldg. 8113 / SAP
SWMU-130	NO FTC	Bldg. 8930 / SAP
SWMU-131	NO FTC	Bldg. 8030 / SAP
SWMU-132	NO FTC	Bldg. 1882 / SAP
SWMU-133	NO FTC	Bldg. 1982 / SAP
SWMU-134	NO FTC	Bldg. 2692 / SAP
SWMU-135	NO FTC	Bldg. 2992 / SAP
SWMU-136	NO FTC	Bldg. 3092 / SAP
SWMU-137	NO FTC	Bldg. 8200 / SAP
SWMU-138	NO FTC	Bldg. 1382 / SAP
SWMU-139	NO FTC	Bldg. 2792 / SAP
SWMU-140	NO FTC	Bldg. 2946 / SAP
SWMU-141	NO FTC	Bldg. 2392 / SAP
SWMU-142	NO FTC	Bldg. 2492 / SAP
SWMU-143	NO FTC	Bldg. 2082 / SAP
SWMU-144	NO FTC	Bldg. 9628 / SAP
SWMU-145	NO FTC	Bldg. 515 / SAP
SWMU-146	NO FTC	Bldg. 207 / SAP
SWMU-147	NO FTC	Bldg. 2496 / SAP
SWMU-148	NO FTC	Bldg. 9604 / SAP
SWMU-149	NO FTC	Bldg. 633 / SAP

SWMU # to FTC

SWMU-150	NO FTC	Bldg. 634 / SAP
SWMU-151	NO FTC	Bldg. 9620 / SAP
SWMU-152	NO FTC	Bldg. 8152 / SAP
SWMU-153	NO FTC	Bldg. 8030 / SAP
SWMU-154	NO FTC	Bldg. 8152 / SAP
SWMU-155	NO FTC	Bldg. 1982 / SAP
SWMU-156	NO FTC	Bldg. 8142 / SAP
SWMU-157	NO FTC	Bldg. 3292 / SAP
SWMU-158	NO FTC	Bldg. 3488 / SAP
SWMU-159	NO FTC	Bldg. 635 / SAP
SWMU-160	NO FTC	Bldg. 8000 / SAP
SWMU-161	NO FTC	Bldg. 342 / SAP
SWMU-162	NO FTC	Bldg. 7804 / SAP
SWMU-163	FTC-076	Fort Carson Industrial Waste Water Plant - Lines
SWMU-164	FTC-070	UST at Bldg. 202
SWMU-165	FTC-077	Battery Shop at Bldg. 8110
SWMU-166	FTC-078	Wash Rack at Bldg. 8110
SWMU-167	FTC-083	North Specker
SWMU-168	FTC-093	POW Area
SWMU-169	FTC-088	UST at Bldg. 1211
SWMU-170	FTC-099	Construction and Demolition Debris Landfill

FTC # to SWMU

FTC-001	NO SWMU	
FTC-002	NO SWMU	
FTC-003	NO SWMU	
FTC-004	NO SWMU	
FTC-005	SWMU-1	Landfill #1
FTC-006	SWMU-2	Landfill #2
FTC-007	SWMU-3	Landfill #3 (Combined with SWMU #2)
FTC-008	SWMU-4	Landfill #4
FTC-009	SWMU-5	Landfill #5
FTC-010	SWMU-6	Landfill #6
FTC-011	SWMU-7	Landfill #7
FTC-012	SWMU-8	Landfill #8
FTC-013	SWMU-9	Landfill #9
FTC-014	SWMU-10	Landfill #10
FTC-015	SWMU-11	Landfill #11
FTC-016	SWMU-12	Landfill #12
FTC-017	SWMU-45	Range #1 Open Burn Grounds
FTC-018	SWMU-46	Range #1A Open Burn Grounds
FTC-019	SWMU-47	Range #121 Open Detonation Grounds
FTC-020	SWMU-18	Grit Oil Pit
FTC-021	SWMU-24	Fire Training Area and Storage Area
FTC-022	SWMU-24	Fire Training Area and Storage Area
FTC-023	SWMU-55 to 111	Former Used/Waste Oil Tanks
FTC-024	SWMU-50	DRMO Inactive Haz. Waste Storage Area
FTC-025	SWMU-49	Happy Hollow Haz. Waste and PCB Storage Facility
FTC-026	SWMU-14	Pete's Hill
FTC-027	SWMU-48	Range #123 Open Burn Grounds
FTC-028	SWMU-44	Silver Recovery Unit at Bldg. 6001
FTC-029	NO SWMU	Hospital Incinerator
FTC-030	SWMU-20	Boiler and Waste Oil Storage Tanks at Bldg. 1860
FTC-031	SWMU-21	Industrial Waste Water Treatment Facilities
FTC-032	SWMU-34	Vehicle Wash Rack Drainages
FTC-033	SWMU-53	Former Waste Oil / Waste Solvent UST at Bldg. 8000
FTC-034	SWMU-33	Golf Course Sewage Spreading Area
FTC-035	SWMU-43	Silver Recovery Unit at Bldg. 6001
FTC-036	SWMU-32	Golf Course Holding Pond
FTC-037	SWMU-42	Silver Recovery Unit at Bldg. 6270
FTC-038	SWMU-41	Silver Recovery Unit at Bldg. 6001
FTC-039	SWMU-23	Sewage Treatment Lagoons at Butts Army Airfield
FTC-040	SWMU-25	Open Dumping Area at Range #121
FTC-041	SWMU-54	Former Haz. Waste Storage Area at Bldg. 8000
FTC-042	SWMU-22	Sewage Treatment Plant
FTC-043	SWMU-51	DIO Haz. Waste Storage Area
FTC-044	SWMU-27	Drainage Ditch at Bldg. 301
FTC-045A	SWMU-28	Battery Shop at Bldg. 8000
FTC-045B	SWMU-29	Battery Shop at Bldg. 8030
FTC-045C	SWMU-30	Battery Shop at Bldg. 8142
FTC-046	SWMU-37	Veterinary Clinic Incinerator
FTC-047	SWMU-19	Land Spreading Area
FTC-048	SWMU-31	Demolition Area

FTC # to SWMU

FTC-049	SWMU-38	Commissary Incinerator
FTC-050	SWMU-39	Classified Document Incinerator at Bldg. 1430
FTC-051	SWMU-40	Classified Document Incinerator at Bldg. 1800
FTC-052	NO SWMU	UST at Building 1092
FTC-053	NO SWMU	UST at Building 7500
FTC-054	NO SWMU	UST at Building 8000
FTC-055	NO SWMU	UST Fuel at Building 981 (Old AAFES Station)
FTC-056	NO SWMU	UST at Building 1382
FTC-057	NO SWMU	All AST/UST
FTC-058	SWMU-16	Vapor Degreaser/Jet Spray Washers
FTC-059	SWMU-21	Industrial Waste Water Treatment Facilities
FTC-060	NO SWMU	UST at Building 749
FTC-061	NO SWMU	UST at Building 1392
FTC-062	NO SWMU	UST at Building 2392
FTC-063	NO SWMU	UST at Building 2492
FTC-064	NO SWMU	UST at Building 2692
FTC-065	NO SWMU	UST at Building 2792
FTC-066	NO SWMU	UST at Building 3192
FTC-067	NO SWMU	UST at Building 8200
FTC-068	NO SWMU	UST Fuel at Building 8300
FTC-069	NO SWMU	Pinon Canyon Maneuver Site UST
FTC-070	SWMU-164	UST at Bldg. 202
FTC-071	NO SWMU	UST at Building 1100
FTC-072	NO SWMU	UST at Building 700
FTC-073	SWMU-26	Equalization Basin
FTC-074	SWMU-35	New Central Wash Rack
FTC-075	SWMU-36	Old Central Wash Rack
FTC-076	SWMU-163	Fort Carson Industrial Waste Water Plant - Lines
FTC-077	SWMU-165	Battery Shop at Bldg. 8110
FTC-078	SWMU-166	Wash Rack at Bldg. 8110
FTC-079	SWMU-18	Sludge Trench Pit
FTC-080	SWMU-52	Happy Hollow 90-Day Haz. Waste Storage Area
FTC-081	NO SWMU	UST at Building 638
FTC-082	NO SWMU	UST at Building 2992
FTC-083	SWMU-167	North Specker
FTC-084	NO SWMU	UST at Building 1515
FTC-085	NO SWMU	UST at Building 1882
FTC-086	NO SWMU	UST Fuel at Building 9606
FTC-087	NO SWMU	UST at Building 403
FTC-088	NO SWMU	UST at Bldg. 1211
FTC-089	NO SWMU	UST at Building 1682
FTC-090	NO SWMU	UST at Building 1982
FTC-091	NO SWMU	UST at Building 2082
FTC-092	NO SWMU	UST at Building 8142
FTC-093	SWMU-168	POW Area
FTC-094	NO SWMU	UST at Building 501
FTC-095	NO SWMU	UST at Building 8152
FTC-096	NO SWMU	UST at Building 9072
FTC-097	NO SWMU	UST at Building 9620
FTC-098	NO SWMU	UST at Building 9628

FTC # to SWMU

FTC-099	SWMU-170	Landfill 1 Construction and Demolition Debris
FTC-100		USTs at Bldg 9648

Summary

STATUS:

Fort Carson is a Non-NPL installation with a RCRA Part B Permit (effective October 29, 1995 expiring 2005 #CO2210020150) and Subpart X Permit interim status.

NUMBER OF SITES:

78 sites

28	Active ER,A Eligible Sites
50	Response Complete Sites

DIFFERENT SITE TYPES:

3 Burn Areas	1 Fire/Crash Training Area
5 Contaminated Fill	2 Contaminated Groundwater
1 Contaminated Sediments	4 Surface Disposal Areas
1 Drainage Ditch	3 Disposal Pit/Dry Wells
1 Dip Tank	1 Industrial Discharge
4 Incinerators	12 Landfills
2 Washracks	4 Storage Areas
3 Surface Impoundment/Lagoons	7 Soil Contamination After Tank Removal
3 Spill Site Areas	1 Above Ground Storage Tank
1 Underground Tank Farm	15 Underground Storage Tanks
2 Water Treatment Plants	1 Explosive Ordnance Disposal Area
1 Unexploded Munitions/Ordnance	

CONTAMINANTS OF CONCERN:

Organics (solvents, petroleum hydrocarbons, etc.), Explosives (TNT, RDX, etc.), Inorganics(metals, nitrates, etc.)

MEDIA OF CONCERN:

Soil, Groundwater, Surface Water, Sediment, Indoor Air

COMPLETED REM/IRA/CMI(C):

- FTC-009, Landfill 5 (1946-1956), evapotranspiration cap, 2000
- FTC-010, Landfill 6 (1942-1945), waste removal, 2000
- FTC-018, Range 1A, burn trench removal, 2001
- FTC-019, Sludge Trench Pit, pit removal, 2001

(See Remediation Activities for complete list.)

CURRENT IRP PHASES: (AEDB-R SITES ONLY)

RFI/CMS at 10 sites CMI(C) at 1 site DES at 1 site
LTM at 6 sites

PROJECTED IRP PHASES: (AEDB-R SITES ONLY)

RFI/CMS at 9 sites DES at 5 sites CMI(C) at 11 sites
LTM at 17 sites

IDENTIFIED POSSIBLE REM/IRA/CMI(C):

- CMI(C) at SWMU 2,8, 3, 24, 53, 55-111

DURATION:

YEAR OF IRP INCEPTION:	1990
YEAR OF IRP COMPLETION EXCLUDING LTM:	2011
YEAR OF IRP COMPLETION INCLUDING LTM:	2034

Installation Information

SITE DESCRIPTION:

Fort Carson is located in the east-central portion of Colorado at the foot of the Rocky Mountain Front Range. The installation, occupying 137,403 acres in El Paso, Fremont, and Pueblo counties, is ~8 miles south of downtown Colorado Springs (population 400,000) and 75 miles south of Denver.

COMMAND ORGANIZATION:

Major Command: United States Army Forces Command (FORSCOM)
Installation: Headquarters 7th Infantry Division and Fort Carson

IRP EXECUTING AGENCIES:

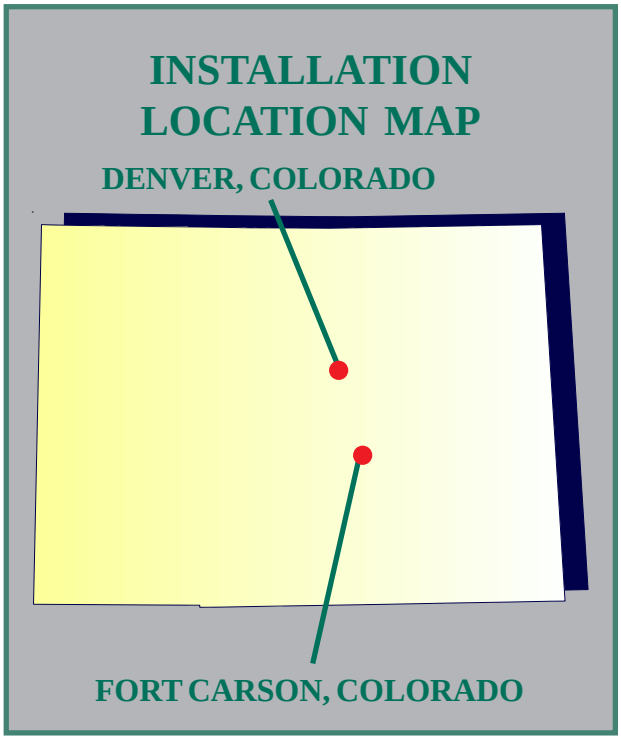
Directorate of Environmental Compliance and Management (DECAM) via U.S. Army Corps of Engineers, Omaha District (CENWO)

REGULATORY PARTICIPATION:

Federal: U.S. Environmental Protection Agency (EPA), Region VIII, Federal Facilities Branch
State: Colorado Department of Public Health and Environment (CDPHE) and Colorado Department of Labor and Employment, Division of Oil and Public Safety (OPS)

REGULATORY STATUS:

- Non-NPL Installation
- RCRA Part B Permit effective Oct. 29, 1995 #CO2210020150
- Interim Subpart X Permit



Installation Description

LOCATION:

Fort Carson is an active military training facility for both weapons qualification and field training. The main installation areas include the Cantonment Area, at the northern apex, Butts Army Airfield, 6 miles south of the Cantonment Area near the east boundary, and unimproved or open operations land at the south end of the installation. Fort Carson also includes a separate training area, Pinon Canyon Maneuver Site (235,896 acres), located 150 miles southeast of the main installation approximately 30 miles north of Trinidad, CO, in Las Animas County.

Tenant organizations at Fort Carson include the Defense Reutilization and Marketing Office (DRMO), Joint Personal Property Shipping Office, U.S. Army Audit Agency (USAAA) (Western Region), 6th Region U.S. Army Criminal Investigation Division Command (USACIDC), Naval Reserve Center, Defense Printing Service, MEDDAC, DENTAC, and 10 Special Forces Groups.

HISTORY:

Construction of Camp Carson began in 1942, shortly after the bombing of Pearl Harbor. The installation was known originally as Camp Carson (named after the frontier hero, General "Kit" Carson), and served primarily as a training facility for more than 100,000 soldiers during World War II. The 71st, 89th, and 104th Infantry Divisions trained at the installation. The Camp was also the site of the Mountain Training Center, the Army Nurse Corps Training Center, and an internment camp for 9,000 German and Italian prisoners of war.

In 1946, the War Department declared Camp Carson a permanent military post. Activities at the Camp were greatly reduced, and only 600 personnel remained at the site. During the 1950s, the mission of Camp Carson continued to be basic and advanced training for combat-ready troops. Reserve and National Guard units were located on site during the Korean Conflict, and Camp Carson served as a separation center where more than 100,000 soldiers were processed between 1951 and 1953. In 1954, the name of the installation was officially changed from Camp Carson to Fort Carson.

In 1961, Fort Carson was selected as the site for a new army training center, but the center was phased out after 1 year. The 5th Infantry Division (Mechanized) was activated and stationed at Fort Carson between 1962 and 1964.

In 1965, approximately 78,500 acres were acquired, increasing the size of the installation to 137,403 acres. Fort Carson was now large enough to support and train an entire division. Concurrently, military strength at Fort Carson was increased from 10,000 to 25,000 troops between 1965 and 1967 with the escalation of the Vietnam conflict. In July and August of 1965, two floods occurred in the region that caused major damage to the area and the installation. The first flood resulted in the loss of several lives and $100 million in damage to the region, and the second flood caused $160,000 in damages at the installation.

Throughout the 1970s, the mission of Fort Carson continued to be the maintenance and training of combat-ready troops. The 4th Infantry Division (Mechanized), also known as the "Iron Horsemen," was redeployed to Fort Carson from Vietnam. During 1995, Fort Carson became the home of the 10th Special Forces Group and the 3rd Armored Cavalry Regiment in addition to the 43rd Support Group. Two brigades of the 4th Infantry Division along with the Division Headquarters were moved to Fort Hood, TX. The 3rd Brigade remained at Fort Carson. As of 1995, operations at Fort Carson were carried out by approximately 20,000 personnel.

The principal industrial operations at Fort Carson have been the repair and maintenance of vehicles and aircraft. The Consolidated Maintenance Facility (Bldg. 8000) performs specialized repair of tactical and heavy construction and engineering equipment. Vehicle maintenance, at all unit motor pools, includes routine oil changes, lubes, washdowns, and refueling.

Installation Description

HISTORY:

On June 4, 1999, the 7th Infantry Division was activated at Fort Carson as an Integrated Division (composed of an Active Component and Army National Guard Units). With its headquarters at Fort Carson, the Division consists of the 39th Infantry Brigade (Arkansas), the 41st Infantry Brigade (Oregon), and the 45th Infantry Brigade (Oklahoma). The Division was orginally activated on December 10,1917.

MISSION:

The primary mission of Fort Carson is the training and readiness of all assigned and attached troops to ensure combat-ready forces. Fort Carson also serves several off-post satellite units and activities in its geographical area of responsibility. Fort Carson administrative, training, logistical, and other services are also utilized by the U.S. Air Force Academy, Cheyenne Mountain Air Station, Peterson AFB, and 58 Reserve components in nine states.

STATISTICS:

TOTAL POPULATION SERVED	***103,832***
ACTIVE DUTY MILITARY	14,457
OFFICERS	13,323
WARRANT OFFICERS	291
ENLISTED	12,842
DA CIVILIANS	1,982
NAF CIVILIANS	966
ACTIVE DUTY - FAMILY MEMBERS	29,805
ON-POST	6,805
OFF-POST	23,000
RETIREES - (ALL SERVICES)	22,907
RETIREE FAMILY MEMBERS	33,715
POPULATION LIVING ON-POST	***13,457***
POPULATION WORKING ON-POST	***19,314***
FAMILY QUARTERS	***2,363***
BACHELOR QUARTERS	***24***
TRANSIENT QUARTERS	***182***
BARRACKS SPACE	***5,145***
SPACES OCCUPIED	4,219
SPACES UNOCCUPIED	926
FORT CARSON, COLORADO	
BUILDING SPACE (sq.ft.)	8,402,731
ACREAGE	137,404
TACTICAL TRAINING AREA (acres)	96,201
REAL PROPERTY VALUE	$849,123,400
PINON CANYON MANEUVER SITE (PCMS)	
BUILDING SPACE (sq.ft.)	64,155
ACREAGE	235,896
MANEUVER AREA (acres)	158,620
REAL PROPERTY VALUE	$46,620,900
IMPACT ON THE LOCAL ECONOMY	***$903,992,426***
MILITARY PAY & ALLOWANCES	$556,986,184
LOCAL PURCHASES & CONTRACTS	$113,492,677
DA CIVILIAN PAYROLL	$114,495,166
TRICARE MEDICAL PAYMENTS	$29,957,356
NAF CIVILIAN PAYROLL	$13,925,170
UTILITIES	$12,741,989
RENT & LEASE PAYMENTS	$1,152,957
TUITION ASSISTANCE & GRANTS	$1,252,000

Contamination Assessment

Fort Carson's principal industrial operation has been the repair and maintenance of vehicles, aircraft, and equipment. Approximately twenty maintenance facilities (motor pools) have been constructed throughout Fort Carson, including the Consolidated Maintenance Facility at Building 8000, which performs specialized repair of tactical and heavy construction and engineering equipment and vehicles. In addition, since the 1960s, more than 300 underground and above ground storage tanks have been installed throughout Fort Carson to store a variety of fuels (gasoline, JP-4, JP-8, kerosene, diesel), and used/waste oils. To date, over 150 individual USTs have been removed and 36 have been upgraded to comply with 1998 state and EPA standards.

Investigations of these facilities in July 1992 detected low levels of PCE, TCE, TCA, heavy metals, petroleum hydrocarbons, and several other substances in the soil and groundwater at some sites. Results of the investigations prompted the implementation of an installation-wide groundwater monitoring program.

In May 1994, the EPA completed a RCRA facility assessment (RFA) of Fort Carson. The CDPHE augmented the RFA in September 1994, and in October 1995, based on sites identified in the RFA, issued Fort Carson a RCRA Hazardous Waste Part B Permit designating the Solid Waste Management Units (SWMUs) listed in this IAP. The FTC numbers also listed in this IAP were designated in the U.S. Army Environmental Hygiene Agency (USAEHA) *Interim Final Report, Hazardous Waste Consultation No. 37-26-0185-89, Evaluation of Solid Waste Management Units, Fort Carson, Colorado Springs, Colorado* (1988).

The RCRA Part B Permit identifies several potential landfill sites that were primarily used for sanitary and construction debris, OB/OD units, a fire training area, battery acid neutralization shops, several vehicle wash rack drainage areas, and several additional areas listed in the respective site description sections. The most widespread contaminants of concern are petroleum related contaminants (POL), metals, inorganics, and volatile organic compounds (VOCs) including, but not limited to, BTEX, TCE, PCE, TCA, and DCE. Limited amounts of contamination other than POL and solvents have been discovered to date. Several sites have been found to have groundwater contamination above regulatory limits. Based on the results of the ongoing groundwater monitoring program, there is no known hazardous constituents migrating off or onto the installation.

To date, a total of five Compliance Orders have been issued to Fort Carson by the CDPHE. The Compliance Orders are dated April 29, 1988, November 18, 1994, March 10, 1997, July 30, 1998 and March 22, 2002, and include violations related to specific SWMUs, as well as general Part B Permit non-compliance concerns.

The current AEDB-R database for the Fort Carson installation contains information on 76 sites. The database numbering system does not accurately reflect the number of physical sites because several AEDB-R numbers refer to multiple site locations. For example, FTC-023 includes 56 locations of former used/waste oil underground storage tanks (USTs). More detailed information about each of the sites is presented in the respective site description sections.

Previous Studies

FTC	SWMU	Project Name	Version	Document	Date
5	1	Landfill 1	Draft Final	RFI Work Plan	1996 January
			Final	Hydrogeologic Study	1997 July
			Final	Quarterly Site Specific Monitoring Program, 3rd Quarter 1997	1998 January
			Final	Quarterly Site Specific Monitoring Program, 4th Quarter 1997, Final	1998 March
			Final	Quarterly Site Specific Monitoring Program, 2nd Quarter 1998, Final	1998 November
			Final	Quarterly Site Specific Monitoring Program, 3rd Quarter 1998	1999 February
			Final	Quarterly Site Specific Monitoring Program, 4th Quarter 1998	1999 August
			Final	Quarterly Site Specific Monitoring Program, 1st Quarter 1999	1999 August
			Draft Final	Gradefill Work Plan Landfill 1 Drainage Channel	1999 August
			Final	Quarterly Site Specific Monitoring Program, 2nd Quarter 1999	2000 January
			Final	Quarterly Site Specific Monitoring Program, 3rd Quarter 1999	2000 April
			Draft Final	Construction and Debris Landfill Design and Operation Plan	2000 June
			Final	Quarterly Site Specific Monitoring Program, 2nd Quarter 2000	2001 March
			Final	Quarterly Site Specific Monitoring Program, 3rd Quarter 2000	2001 May
			Final	Quarterly Site Specific Monitoring Program, 1st Quarter 2001	2001 March
			Final	Quarterly Site Specific Monitoring Program, 2nd Quarter 2001	2002 August
			Draft Final	Quarterly Site Specific Monitoring Program, 3rd Quarter 2001	2002 November
			Draft Final	Conceptual Cap Design Landfill 1	2002 November
			Map	Landfill 1 ET Cap Conceptual Design	2002 November
			Draft Final	Quarterly Site Specific Monitoring Program, 4th Quarter 2001 - 2nd Quarter 2002	2002 December
			Draft Final	Quarterly Site Specific Monitoring Program, 3rd Quarter 2002	2003 January
5,11,20,26, 79,100	1,7,13,14,18,170	Combined Landfill Area			
			Draft Final	Interim Closure Plan CLA	2003 July
			Draft Final	RFI Work Plan CLA	2003 July
			Final	RFI Work Plan CLA	2003 September
			Final	Interim Closure Plan CLA	2003 September
			Draft Final	Quarterly Monitoring Report, 4th Quarter 2003 ICP	2004 April
			Final	Quarterly Monitoring Report, 4th Quarter 2003 ICP	2004 May
			Draft Final	RFI CLA	2004 June

Previous Studies

FTC	SWMU	Project Name	Version	Document	Date
6	2	Landfill 2		Remedial Design Landfills 2,5, & 6 and Vapor Degreaser (Rev. 1) (Delivery Order Specific)	1994 December
				Analytical Data Package for RFI at Landfills 2,5,&6 and Vapor Degreaser Site at Building 8000 -Volume 1 & 2	1995 July
				Analytical Data Package for Landfills 2, 5, & 6 (for samples collected June,1995 to May 1996)	1996 September
			Final	Ft. Carson Landfill Survey (Subcontract Geo Centers)	1995 November
			Revised	Conceptual (30%) Design Engineering Design Analysis Landfill 2	1995 November
			Draft Final	Cap Installation Work Plan Landfills 5&6	1996 December
			Final	Design Analysis; Landfill 2	1996 May
				Construction Specifications Landfill 2	1996 May
				QCSR - Landfills 2,5, & 6	1996 October
			Draft Final	Gradefill Work Plan Landfill 2	1998 January
			Revised Final	Sampling and Analysis Plan for Remedial Design for Landfills 2,3,5, and 6 and Vapor Degreaser	1998 January
				Gas Probe Monitoring Results for Landfills 2,5,& 6 (April-June, 1998)	1998 June
			Draft Final	RFI Work Plan Addendum, Landfill 2	2003 September
			Final	RFI Work Plan Addendum, Landfill 2	2004 May
				Included with Landfill 2	
7	3	Landfill 3		1995 Documents will be with Group A documents.	
8	4	Landfill 4	Draft Final Rev.1	RFI Work Plan	1999 December
				MatcomTM Suitability Report (Harding Lawson)	2000 August
			Draft Final Rev. 2	RFI Work Plan	2000 December
			Draft Final Rev. 1	RFI Report	2001 July
			Draft Final Rev. 2	RFI Report	2003 January
			Draft Final	QCSR Addendum 2	2003 January
			Final	RFI Report	2003 October
9	5	Landfill 5		Some Landfills 2, 5, and 6 documents will be in one document - see under Landfill 2	
			Final	Design Analysis; Landfill 5	1996 April
				Landfill 5 Construction Specifications	1996 April
			Draft Final	Cap Installation Work Plan Landfills 5 & 6	1996 December
				Preconstruction Survey Report, Landfill 5	1997 August
			Draft Final	Gradefill Work Plan for Landfills 5 & 6	1997 July
				Construction Activities at Landfills 5 and 6 (Stormwater Pollution Prevention Plan)	1997 June
				Additional ET Cap Modeling Landfills 5 & 6	1998 January
			Draft Final	Motor Pool Cap Work Plan, Landfill 5	1999 February
			Draft Final	ET Cap Work Plan Landfills 5&6	1999 March
			Final	Design Analysis for Landfill 5, Motor Pool Cap (HLA)	1999 June
			Final	Motor Pool Cap Work Plan, Landfill 5	1999 June
			Draft Final	ET Cap Work Plan, Landfill #5	2000 March
			Final	Certification Report Landfill 5 Motor Pool Cap	2000 March
			Final	Construction Report Landfill 5 Motor Pool Cap	2000 August
			Final	Certification Report Landfill 5 ET Cap (HLA)	2001 February

Previous Studies

FTC	SWMU	Project Name	Version	Document	Date
			Draft Final	RFI Report Landfill 5	2001 March
			Final	Quarterly Site Specific Monitoring Program, 4th Quarter 2000	2001 August
			Final	Construction Report Landfill 5 ET Cap	2001 December
			Final	Site Characterization Report Landfill 5 (HLA)	2002 February
			Draft Final	Landfill 5 ET Cap Annual Performance Monitoring Report for 2001	2002 February
			Final	ET Cap Work Plan, Landfill #5	2002 March
			Draft Final	2nd Quarter 2001, Groundwater Sampling Results, Landfill 5	2002 May
			Final	Quarterly Site Specific Monitoring Program, 1st Quarter 2001	2002 July
			Draft Final	CMS Work Plan Landfill 5	2002 July
			Draft Final	Certification Report, Landfill 5	2002 August
			Draft Final	Quarterly Site Specific Monitoring Program, 2nd Quarter 2001 - 2nd Quarter 2002	2002 November
			Draft Final	Letter Work Plan for Landfill 5 Soil Gas Investigation	2002 October
			Draft Final	CMS Work Plan Landfill 5	2002 November
			Draft Final	Quarterly Site Specific Monitoring Program, 3rd Quarter 2002	2002 December
			Draft Final	Landfill 5 ET Cap Annual Performance Monitoring Report for 2002	2003 February
			Draft Final, Rev. 1	Landfill 5 Soil Gas Investigation Work Plan	2003 March
			Final	Construction Report Landfill 5 ET Cap	2003 May
			Final	Certification Report Landfill 5 ET Cap (Harding ESE)	2003 May
			Final	Landfill 5 Soil Gas Investigation Work Plan	2003 June
			Final	Quarterly Site Specific Monitoring Program, 2nd Quarter 2001 - 2nd Quarter 2002	2003 June
			Draft Final	Work Plan for Evapotranspiration Cap, Soil Investigation at Landfill 5	2003 July
			Draft Final	Groundwater and Soil Gas Monitoring Report 1st Quarter 2003 Landfill 5	2003 August
			Draft Final,	Post-Construction Groundwater and Soil Gas Monitoring Plan Landfill 5	2003 August
			Final	Groundwater and Soil Gas Monitoring Report Third Quarter 2002	2003 August
			Draft Final	Initial Groundwater Investigation Work Plan Landfill 5	2003 September
			Final	Work Plan for ET Cap Soil Investigation at Landfill 5	2003 September
			Final	Initial Groundwater Investigation Work Plan Landfill 5	2003 October
			Final	Post-Construction Groundwater and Soil Gas Monitoring Plan, Landfill 5	2003 October
			Final	Groundwater and Soil Gas Monitoring Report, First Quarter 2003, Landfill 5	2003 October
			Final	Landfill 5 ET Cap Annual Performance Monitoring Report for 2001	2003 December
			Draft Final	Landfill 5 Phase I Investigation for ET Cap at Landfill 5 (Golder Assoc.)	2004 January
			Draft Final	Landfill 5 ET Cap GW and Soil Gas Monitoring Report for Nov. 2003	2004 February

Previous Studies

FTC	SWMU	Project Name	Version	Document	Date
			Draft Final	Landfill 5 ET Cap Annual Performance Monitoring Report for 2003	2004 March
			Final	Landfill 5 ET Cap Annual Performance Monitoring Report for 2002	2004 April
			Final	Landfill 5 ET Cap Annual Performance Monitoring Report for 2003	2004 April
10	6	Landfill 6		Some Landfills 2, 5, and 6 documents will be in one document - see under Landfill 2.	
			Final	Design Analysis; Landfill 6	1996 March
			Final	RFI Work Plan Addendum for Landfill 6	1995 November
				Construction Specifications Landfill 6	1996 March
				Concept Design Landfill 6 Removal	2000 February
			Final	RFI Report Landfill 6	2000 May
			Final	Waste Relocation Work Plan, Landfill 6	2000 August
			Final	Work Plan for Utility Relocation Project Landfill 6 (HLA)	2000 November
			Final	Overhead Electrical Power & Communication Lines Relocation Work Plan	2001 January
			Final	Certification Report Landfill 6 Waste Relocation	2002 February
			Draft Final	Construction Completion Report, Former Landfill 6 Waste Relocation	2004 May
11	7	Landfill 7		All Documents now associated with Combined Landfill	
			Draft Final	RFI Work Plan, Landfill 7	1996 April
12	8	Landfill 8	Draft Final	RFI Work Plan, Landfill 8	2001 September
			Final	RFI Work Plan, Landfill 8	2002 May
			Draft Final	RFI, Landfill 8	2003 July
13	9	Landfill 9	Draft Final	RFI Work Plan, Landfill 9	1996 April
			Draft Final	RFI Work Plan, Landfill 9	2004 January
14	10	Landfill 10	Draft Final	RFI Work Plan, Landfill 10	1996 January
			Draft Final	RFI Work Plan, Landfill 10	2000 January
15	11	Landfill 11	Draft Final	RFI Work Plan, Landfill 11	1997 July
			Draft Rev.	RFI Work Plan, Landfill 11	2001 March
			Draft Final	RFI Report, Landfill 11	2001 October
			Final	RFI Report, Landfill 11	2004 March
16	12	Landfill 12		NFA Request Landfill 12	1996 June
			Final	RFI Work Plan, Landfill 12 (ECC)	1998 October
			Draft Final	RFI Report, Landfill 12	1998 January
17	45	Range 1		1995 data will be with Group B documents.	
			Final	RFI Report, Range 1, Open Burn Grounds (ECC)	1999 May
			Final	Letter Work Plan Range 1, Open Burning Grounds	2001 September
			Draft Final	Conceptual Removal Plan, Range 1 Concrete Basin	2001 September
			Draft Final	RFI Work Plan Addendum, Range 1	2003 September
			Final	RFI Work Plan Addendum, Range 1	2003 November
18	46	Range 1A		1995 data will be with Group B documents.	
			Draft Final	Work Plan for Additional Soil Sampling	2001 February
			Draft Final, Rev. 1	RFI Report	2002 April
			Final	QCSR Addendum	2002 April
19	47	Range 121(Open Detonation)		1995 data will be with Group B documents.	
19,40	47,40	Combined Range 121 Open Detonation Grounds and Range 121 Open Dumping Area			

Previous Studies

FTC	SWMU	Project Name	Version	Document	Date
			Draft Final	Letter Work Plan for Monitoring Well Installation and Quarterly Groundwater Sampling	2003 August
				1st Quarter Groundwater Monitoring Data for Range 121 Open Detonation and Open Dumping Area	2004 January
20	13	Grit/Oil Pit	Final A-E	Work Plan	1994 March
				Design Concept Submittal	1994 June
			Pre-Final	Design Analysis Report	1994 July
			Final	Design Submittal, Vol. I: Design Analysis Report	1994 August
			Final	Design Submittal, Vol. II: Specifics & Bid Schedule	1994 August
			Final	Design Submittal, Vol.III: Cost Estimates and Construction Schedule	1994 August
			Final	Submittal Grit/Oil Pit Voluntary Corrective Action	1994 August
			Final Rev.	RFI Work Plan	1995 November
				Analytical Data Package	1996 May
			Draft Final	RFI Report, Grit/Oil Pit	1996 June
			Rev. 1	QCSR	1996 August
			Draft Final	RFI Work Plan Addendum, Grit/Oil Pit	1997 May
				Analytical Data Package - Volume 2	1998 May
			Draft Final, Rev. 1	Phase I CMS Work Plan	1999 October
				Analytical Data Package - Volume 3	2000 April
			Final	RFI Report, Grit/Oil Pit	2000 May
			Final	Letter Work Plan for Installing Additional Temporary Direct Push Wells Grit/Oil Pit and Landfill 1 CMS - Phase 1	2000 May
			Final	QCSR - Addendum to RFI Report	2000 June
			Draft Final	Phase I CMS Report, Landfill 1 and Grit/Oil Pit	2001 March
			Draft Final	Phase II CMS Work Plan, Landfill 1 and Grit/Oil Pit	2001 June
			Final	Phase II CMS Work Plan, Landfill 1 and Grit/Oil Pit	2001 August
			Final	Phase I CMS Summary Report, Landfill 1 and Grit/Oil Pit	2001 September
			Final	Phase II CMS Work Plan, Landfill 1 and Grit/Oil Pit	2001 October
			Final	Phase I CMS Summary Report, Landfill 1 and Grit/Oil Pit	2001 October
			Draft Final	Pilot Soil Vapor Extraction Treatability Study Report,	2002 March
			Final	Pilot Soil Vapor Extraction Treatability Study Report,	2002 June
				Interim Remedial Measure, Initial Summary Report (SVE system), Grit/Oil Pit	2003 May
			Draft Final	Interim Remedial Action, Source Removal Work Plan, Grit/Oil Pit	2004 May
21,22	24	Fire Training Area		All Documents now associated with Butts East Combined Sites	
				Analytical Data Package - Volume I & II	1996 June
				QCSR	1996 August
			Draft Final	Oil/Water Separator Removal Work Plan Fire Training	1999 November
			Draft Final	RFI Report	1999 August
			Draft Final	Oil/Water Separator Removal Work Plan Fire Training	2001 June
			Draft Final	Oil/Water Separator Removal Work Plan Addendum Fire Training Area	2001 July
			Final, Rev. 1	Oil/Water Separator Removal Work Plan Addendum Fire Training Area	2001 December
21,22,23,39	23,24,90	Butts East Combined Sites			
			Final	RFI Work Plan, BECS	2001 May

Previous Studies

FTC	SWMU	Project Name	Version	Document	Date
			Draft Final	RFI Work Plan Addendum, BECS	2002 March
			Draft Final	RFI, BECS	2004 March
23	55-111	11 & 33-Site Used/Waste Oil USTs		Preliminary work under group documents, additional work may be under individual SWMU numbers.	
			Final	No Further Action Request for SWMU's 93, 94, 95, and 97 through 106, Former Used/Waste Oil Above Ground Storage Tanks	1996 July
			Final	RFI Work Plan, Former Used/Waste Oil Tanks - 11 Site	1998 June
			Draft Final, Rev. 1	RFI Work Plan, Former Used/Waste Oil Tanks and Oil/Water Separators- 33 Site	1998 July
			Draft Final	Phase I RFI Report, Former Used/Waste Oil Tanks - 11	1999 July
			Draft Final	QCSR, Phase I RFI Former Used/Waste Oil Tanks - 11	1999 July
			Draft Final	Letter Work Plan Addendum, Former Used/Waste Oil Tanks and Oil/Water Separators - 33 Site, Modification to Field Sampling for the Former Oil/Water Separator Discharge Locations	1999 September
	111		Final	Letter Work Plan, Subsurface Investigation - Building 8110	2000 June
	74, 75		Final	Letter Work Plan Addendum, Former Used/Waste Oil Tanks and Oil/Water Separators - Building 2840 and	2000 July
	72,74,89 ,90		Final	Letter Work Plan Addendum - Former Used/Waste Oil Tanks and Oil/Water Separators - Building 2735, Building 2840, Building 9609, and Building 9620	2000 July
	110,72		Final	Letter Work Plan Addendum, Former Used/Waste Oil Tanks - Building 2427 and Building 2735	2000 July
	110		Final	Letter Work Addendum, Former Used/Waste Oil Tanks - Building 2427	2000 July
			Draft	Letter Work Plan Addendum for Former Used/Waste Oil Tanks - 33 Site, Re-sampling Associated With Quanterra Environmental Services Performance	2000 March
	84		Draft Final	Letter Work Plan Addendum, Former Used/Waste Oil Tanks - Building 8300	2001 June
			Final	Former Used/Waste Oil Above Ground Storage Tank Legal Descriptions	2002 April
	84		Draft	Letter Work Plan Addendum, Former Used/Waste Oil Tanks - Building 8300 (Paragon Analytics Chiller Malfunction Resampling)	2002 April
			Final	QCSR, Phase I RFI, Former Used/Waste Oil Tanks - 11 Site	2002 July
	84		Draft Final	RFI Addendum, Former Used/Waste Oil Tanks - Building 8300	2002 August
	61		Draft Final & Final	Phase I RFI Report, Former Used/Waste Oil Tank - Building 1515	2003 May
	83		Draft Final	Phase I RFI Report, Former Used/Waste Oil Tanks - Building 8200	2003 May
	85		Draft Final	Phase I RFI Report, Former Used/Waste Oil Tank - Building 8930	2003 May
	75,84,110		Draft	QCSR Addendum, Former Used/Waste Oil Tanks - 11 Site	2003 June

Previous Studies

FTC	SWMU	Project Name	Version	Document	Date
	111		Final	Letter Work Plan Addendum, Former Used/Waste Oil Tanks - Building 8110	2003 June
	67		Draft Final	Phase I RFI Report, Former Used/Waste Oil Tank -	2003 June
	80		Draft Final	Phase I RFI Report, Former Used/Waste Oil Tank -	2003 June
	82		Draft Final	Phase I RFI Report, Former Used/Waste Oil Tanks - Building 8152	2003 June
	81		Draft Final	Phase I RFI Report, Former Used/Waste Oil Tanks - Building 8142	2003 June
	110		Draft Final	Phase I RFI Report, Former Used/Waste Oil Tank - Building 2427	2003 June
	75		Draft Final	Phase I RFI Report, Former Used/Waste Oil Tanks - Building 2940	2003 July
	84		Draft Final	Phase I RFI Report, Former Used/Waste Oil Tank - Building 8300	2003 July
	83		Final	Phase I RFI Report, Former Used/Waste Oil Tank - Building 8200	2003 July
	111		Draft Final	Phase I RFI Report, Former Used/Waste Oil Tank - Building 8110	2003 July
	58		Draft Final	RFI Report, Former Used/Waste Oil Tank - Building 218	2004 February
	57		Draft Final	RFI Report, Former Used/Waste Oil Tank - Building 635	2004 February
	84		Draft Final	Letter Work Plan Addendum, Former Used/Waste Oil Tanks - Building 8300	2004 February
	110		Draft Final	Letter Work Plan Addendum, Former Used/Waste Oil Tanks - Building 2427	2004 February
	111		Final	Phase I RFI Report, Former Used/Waste Oil Tank - Building 8110	2004 March
	96		Draft Final	RFI Report, Former Used/Waste Oil Tank - Building 1404	2004 April
	91		Draft Final	Phase I RFI Report, Former Used/Waste Oil Tank - Building 9628	2004 May
	85		Final	Phase I RFI Report, Former Used/Waste Oil Tank - Building 8930	2004 May
24	50	DRMO		1995 data will be with Group A documents.	
			Final	RFI Report DRMO Hazardous Waste Storage Facility	2001 July
26	14	Pete's Hill Dump		All Documents now associated with Combined Landfill Area	
			Draft Final	RFI Work Plan, Pete's Hill Dump	2002 January
			Draft Final, Rev. 1	RFI Work Plan, Pete's Hill Dump	2002 April
27	48	Range 123		1995 data will be with Group B documents.	
				Work Plan for Additional Soil Sampling	2001 January
			Final Letter	Work Plan for Additional Soil Sampling Range 123	2001 April
			Draft Final	RFI Report and QCSR	2003 June
			Final	RFI Report and QCSR	2003 December
			Draft Final	Letter Work Plan, Remedial Action at Range 123	2004 May
31	21	Industrial WWT Plant			
			Draft Final	RFI Work Plan IWWTP (FEC Document)	1996 April
32	34	Vehicle Wash Rack Ditches		1995 data will be with Group A documents.	
			Draft Final	RFI Report Vehicle Wash Rack Drainage Ditches	2001 May
33	53	Building 8000		Pre-Design Study Report UST Sites	1992 June
				UST Sites, Remedial Design	1992

Previous Studies

FTC	SWMU	Project Name	Version	Document	Date
				Building 8000, Two-26,000 Gallon Used Oil Tanks	1992
				Supplemental Site Investigation Report, UST Sites	1993 February
			Draft Final	RFI Work Plan, Building 8000, Former Waste Oil/Solvent USTs	1996 July
				Letter Work Plan for Fort Carson, Building 8000	1996 November
			Draft Final, Rev. 1	RFI Work Plan, Building 8000, Former Waste Oil/Solvent USTs	1998 January
			Final	RFI Summary and Letter Work Plan Addendum, Building 8000	1998 October
				Letter Work Plan Addendum for Northern Manholes, Building 8000	1999 July
			Draft Final	RFI Work Plan, Building 8001, Former Waste Oil/Solvent USTs	2000 August
			Draft Final	Interim Corrective Measure Work Plan, Building 8000	2001 July
			Final	Interim Corrective Measure Work Plan, Building 8000	2001 August
			Draft Final	Supplemental RFI Work Plan, Building 8000 - Former Waste Oil/Solvent Underground Storage Tanks	2004 March
34,36	33,32	Golf Course Sludge Spreading Area and Golf Course Sewage Spreading Area			
			Draft Final	RFI Work Plan Golf Course Sewage Treatment Plant Effluent and Sludge Spreading Area (FEC)	1996 July
39	23	Sewage Treatment		All Documents now associated with Butts East Combined Sites	
			Final	RFI Work Plan Addendum for Sewage Treatment Lagoons	1996 April
			Draft Final	RFI Report Sewage Treatment Lagoons	1999 November
			Draft Final	RFI Report Addendum Letter Report Sewage Treatment Lagoons	2000 June
40	25	Range 121 (Open Dumping)		1995 data will be with Group B documents.	
			Draft Final	Work Plan for Additional Soil Sampling	2001 February
41	54	Former Long Term Haz. Waste Storage Area (Building 8000)			
			Draft Final	RFI Work Plan (FEC Document)	1996 January
			Draft Final	RFI Work Plan	2003 May
			Draft Final	RFI Report, Former Long-Term Haz. Waste Storage Area	2004 March
42	22	Original Sewage		RFI Work Plan	1996 April
				Analytical Data Package for Sewage Treatment Plant	2000 July
			Draft	Process Unit Demolition Report, Sewage Treatment Plant	2004 June
43	51	DIO	Draft Final Rev. 01	RFI Work Plan for DIO Hazardous Waste Storage Area	1999 February
				Analytical Data Package	2000 July
			Draft Final	RFI Work Plan for Additional Surface Soil Sampling	2001 June
				Analytical Data Package Addendum	2001 December
			Final	QCSR DIO Hazardous Waste Storage Area	2002 January
			Final	QCSR Addendum DIO Hazardous Waste Storage Area	2002 January
			Final	RCRA Facility Investigation Report DIO Hazardous Waste Storage Area	2002 January
44	27	Building 301 Drainage		1995 data will be with Group A documents.	
			Draft Final	RFI Report Building 301 Drainage Ditch	2001 May
45A,45B, 45C	28,29,30	Buildings 8000, 8030, 8142 Battery Acid Neutralization Shops			
			Final	Work Plan, Battery Acid Neutralization Shops	1998 September

Previous Studies

FTC	SWMU	Project Name	Version	Document	Date
			Final	QCSR, Battery Acid Neutralization Shops	2002 January
			Final	RFI Report, Battery Acid Neutralization Shops	2002 January
47	19	Land Spreading Field			
			Draft Final	RFI Work Plan	1996 July
			Draft Final	RFI Work Plan	2001 November
			Final Rev.	RFI Work Plan	2002 January
			Draft Final	RFI Report, Land Spreading Field	2004 February
			Final	Letter Work Plan Addendum, Land Spreading Field	2004 June
48	31	Demolition		1995 data will be with Group B documents.	
			Draft Final	RFI Report, Demolition Area	2001 July
			Final	RFI Report, Demolition Area	2001 November
58	16	Vapor Degreaser		Design Analysis for Former Vapor Degreaser and Soil Vapor Extraction System	1995 October
				Analytical Data Package - Former Vapor Degreaser	1996 October
			Draft Final	QCSR	2000 August
			Draft Final	RFI Report, Vapor Degreaser	2001 March
			Final	RFI Report, Vapor Degreaser	2002 October
73	26	Equalization Basin	Draft	Addendum No. 1 to Final Sampling and Analysis Plan for Equalization Basin	1995 February
			Final	Analytical Data Package for RFI, Equalization Basin	1995 July
				QCSR, Equalization Basin	1995 October
			Final	Conceptual Removal Plan, Equalization Basin	1997 August
				Letter Work Plan for Additional Basin Sludge Sampling, Equalization Basin	1998 February
				Letter Work Plan Addendum for Sludge Removal, Equalization Basin	1998 April
			Final	Analytical Data Package Addendum, Equalization Basin Vol. II	1998 October
			Final	RFI Report, Equalization Basin	2000 March
			Draft Final	Groundwater Monitoring Plan for Equalization Basom	2002 June
74	35	New Central Wash Rack	Draft Final	RFI Work Plan, New Central Wash Rack	1996 April
			Draft Final	No Further Action Request	2001 March
75	36	Old Central Wash Rack	Draft Final	RFI Work Plan, Old Central Wash Rack	1996 April
			Draft Final	RFI Report, Old Central Wash Rack	2004 April
76	163	Industrial Wastewater Treatment System			
			Draft Final	RFI Work Plan for Fort Carson Sewer Systems	1996 July
			Final Letter	Work Plan for Fort Carson Sewer System	1997 January
			Draft Final	RFI Work Plan for Industrial Wastewater System	1999 November
			Draft Final	RFI Work Plan Industrial Waste Water System	2001 April
			Draft Final, Rev. 1	RFI Work Plan Industrial Waste Water System	2001 June
			Draft Final	RFI Report, Fort Carson Sewer System (Industrial Wastewater Lines)	2004 April
77	165	Bldg. 8110 Former Lime	Final	Letter Work Plan Subsurface Investigation	2000 June
			Draft Final	RFI Work Plan	2001 February
			Draft Final	RFI Work Plan Addendum, Former Lime Pit at Building 8110 (Weston)	2003 August

Previous Studies

FTC	SWMU	Project Name	Version	Document	Date
			Draft Final	RFI Report, Former Lime Pit at Building 8110 (Weston)	2003 December
			Final	RFI Report, Former Lime Pit at Building 8110 (Weston)	2004 April
78	166	Bldg. 8110 Former Wash Rack			
			Final	Letter Work Plan Subsurface Investigation	2000 June
			Final	RFI Work Plan	2001 February
			Draft Final	RFI Work Plan Addendum, Former Wash Rack at Building 8110 (Weston)	2003 August
			Draft Final	RFI Report, Former Wash Rack at Building 8110 (Weston)	2003 December
			Final	RFI Report, Former Wash Rack at Building 8110 (Weston)	2004 April
79	18	Sludge Trench Pit		All Documents now associated with Combined Landfill Area	
			Draft Final	RFI Work Plan	1996 July
			Draft Final	Removal Work Plan	2001 June
			Draft Final	RFI Report, Sludge Trench Pit	2002 May
			Draft Final, Rev. 1	QCSR	2002 May
			Draft Final, Rev. 1	RFI Report, Sludge Trench Pit	2002 December
			Final	QCSR	2003 January
			Draft Final	RFI Report Addendum, Sludge Trench Pit	2004 June
83	167	North Specker Avenue/ Bldg. 749			
			Final	Voluntary Site Assessment Work Plan for Building 749-West Drainage Ditch	1997 January
				Rationale for Additional Groundwater Sampling Activities, Building 749 - West Drainage Ditch	1997 February
				Additional Direct Push Groundwater Sampling Activities, Building 749 - West Drainage Ditch	1997 March
				Possible Monitoring Well Locations for Foothills Engineering Consultants Activities	1997 April
			Final	Newly Identified SWMU Report	1997 May
				Results of Soil-Gas Pilot Test and Letter Work Plan for Additional Investigation Activities at North Specker Avenue	1998 June
			Draft	Site Close Report - Building 749, RFI on Numerous USTs	1999 November
			Draft Final	SWMU 167 Summary report, North Specker Avenue Groundwater Plumes	2000 March
			Final	Letter Work Plan for Additional Subsurface Investigation	2000 September
				Interim Report, Subsurface Investigation and Pilot Test	2000 November
			Revised Draft Final	Letter Work Plan for Interim Remedial Action	2001 January
			Final	Letter Work Plan for Additional Subsurface Investigation	2001 May
			Draft Final	RFI Report	2002 September
			Draft Final	QCSR	2002 September
			Draft Final, Rev. 1	RFI Report, North Specker Avenue Groundwater Plumes	2002 December
			Final	Indoor Air Assessment Work Plan	2003 August
				October 2003 Indoor Air Sampling Analytical Results for North Specker	2004 January
			Draft Final	CMS Work Plan for North Specker Avenue	2004 April
88	169	UST Site Building 1211	Final	Letter Work Plan Addendum for Additional Subsurface Investigation	2000 March

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FTC	SWMU	Project Name	Version	Document	Date
			Draft Final	Newly Identified SWMU Report	2001 April
93	168	POW Camp	Draft Final	Newly Identified SWMU Report - POW Camp	2000 December
			Draft Final	QCSR/ADP, POW Camp	2002 January
			Draft Final	RFI Report, POW Camp	2002 January
			Draft Final	RFI Letter Work Plan Addendum, POW Camp	2002 November
			Draft Final	RFI Work Plan, Former POW Camp	2003 December
			Final	RFI Work Plan, Former POW Camp	2004 March
100	170	Construction and Demolition Debris Landfill			
				All Documents associated with Combined Landfill Area	
Group A		Group A		Includes: Landfill 4, DRMO, Vehicle Wash Racks, and Building 301 Drainage Ditch	
			Final	Sampling & Analysis Plan for Group A	1994 August
			Final	Sampling and Analysis Plan for Group A Sites	1994 November
			Final	Analytical Data Package for Site Investigation at Group A	1995 June
				RFIs at Group A Sites: Landfill 4, DRMO Hazardous Waste Storage Area, Vehicle Wash Rack Drainage	1995 September
				RFI Report and Baseline Human Health Risk Assessment for Group A Sites	1996 January
			Draft Final	A Sites	1996 October
			Draft Final	RFI for Group A Sites	1999 June
			Final	Quality Control Summary Report for RFI at Group A Sites	1995
Group B		Group B		Includes: Range 1A, Range 121, Range 123, and Demolition Area	
				Sampling and Analysis Plan for Group B Sites (Delivery Order Specific)	1994 November
			Final	QCSR for Site investigations at Group B Sites	1995 April
				Site Investigation at Group B Sites	1995 April
			Final	Analytical Data Package for Site Investigation at Group B	1995 March
			Draft Final	Voluntary Site Investigation and Risk Assessment Report for Group B Sites	1996 October
			Draft Final	RFI Report for Group B Sites	1999 September
		Multiple USTs (1994)	Final A-E	Chemical Data Acquisition Plan/Work Plan for Site Assessment on Multiple USTs	1993 March
			Final A-E	Chemical Data Acquis. Plan/Work Plan for Site Assess. on Multiple USTs	1994 March
			Final	Quality Control Summary Report RFI on Multiple UST	2000 July
				Groundwater Development Photograph Log for Multiple USTs	1994 November
				Site Assessment Report for Multiple USTs	1994 October
			Final	Site Assessment Report for Multiple USTs	1995 February
			Final	Analytical Data Package Vol. I-4, for Site Assessment on Multiple USTs	1994 September
				Executive Summary & Rev. Table of Contents for Final Site Assessment Rep. for Multiple USTs	1995 June
			Final	RFI Work Plan on Multiple USTs	1996 October
			Final	Letter Work Plan for Investigating Bldgs. 1860, 6290,	1999
			Final Letter	Work Plan for Subsurface Investigations at Heating Oil Plants, Buildings 1860 & 6290	1999 August
			Final Letter	Work Plan for the Installation of Additional Soil Borings - Building 6290	2000 September

Previous Studies

FTC	SWMU	Project Name	Version	Document	Date
			Final	Site Characterization Reports, Bldg. 1860 and Bldg. 6290	2001 April
Quarterly Groundwater Monitoring Program					
			Final - Rev 01	Quarterly Groundwater Monitoring Procedures Manual / Site Specific Health and Safety Plan	1996 May
			Final	Sampling Plans for Quarterly Groundwater Monitoring Program - 1996	1996 April
			Final	Sampling Plans for Quarterly Groundwater Monitoring Program - 1997	1996 December
			Final	Sampling Plans for Quarterly Groundwater Monitoring Program - 1998	1998 January
			Final	Sampling Plans for Quarterly Groundwater Monitoring Program - 1999 Qrts 1 & 3	1999 January
			Final	Sampling Plans for Quarterly Groundwater Monitoring Program - 2000	2000 January
			Final	Sampling Plans for Quarterly Groundwater Monitoring Program - 2001	2001 January
			Final	Analytical Data Packages, Quarterly Groundwater Monitoring Program 1996	1996 July
			Final	Analytical Data Packages, Quarterly Groundwater Monitoring Program 1997	1997 April
			Final	Analytical Data Packages, Quarterly Groundwater Monitoring Program 1998	
			Final	Analytical Data Packages, Quarterly Groundwater Monitoring Program 1999	1999 June
			Final	Quarterly Groundwater Monitoring Program, 1996, First Quarter, Vol 1	1997 September
			Final	Quarterly Groundwater Monitoring Program, 1996, Second Quarter, Vol 2	1998 June
			Final	Quarterly Groundwater Monitoring Program, 1996, Third Quarter, Vol 3	1998 September
			Final	Quarterly Groundwater Monitoring Program, 1996, Fourth Quarter, Vol 4	1999 March
			Final	Quarterly Groundwater Monitoring Program, 1997, First Quarter, Vol 1	
			Final	Quarterly Groundwater Monitoring Program, 1996 -- All on one CD	
Relative Risk Evaluation		DSERTS	Letter	Report For Relative Risk Groundwater Sampling at Selected Sites completed During September 1996	1997 July
		FLPM	Working Draft	Field and Laboratory Procedures Manual for Fort Carson Army Installation	1995 September
			Final	Field and Laboratory Procedures Manual for Fort Carson Army Installation (Rev. 0)	1996 March
			Final	Field and Laboratory Procedures Manual for Fort Carson Army Installation	1997 April
			Final	Field and Laboratory Procedures Manual for Fort Carson Army Installation	1997 March
			Final	Field and Laboratory Procedures Manual for Fort Carson Army Installation	1996 May
Programmatic Site Safety and Health Plans					

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FTC	SWMU	Project Name	Version	Document	Date
			Final	Site Specific Safety, Health and Emergency Response Plan for Sludge Pit Excavation	1993 January
19			Final	Site Safety and Health Plan, Grit/Oil Pit	1994 March
			Final	Site Safety and Health Plan, Site Assessment on Multiple USTs	1994 March
			Final	Sampling and Analysis and Site Specific Health & Safety Plan for Group B Sites	1994 November
				Programmatic Site Safety & Health Plan For Voluntary Site Assessment Health-Based Risk Assessment & Remedial	1994 October
			Draft Final, Rev. 1	Sampling and Analysis Plan/Site Safety and Health Plan, Former Fire Training Area	1994 November
73			Final	Sampling and Analysis Plan and Site Specific Health and Safety Plan For Equalization Basin	1994 November
				Site Safety and Health Plan, Former Fire Training Area	1994 December
				Site Safety and Health Plan, Voluntary Site Investigation and Health-Based Risk Assessment	1994 December
				Site Safety and Health Plan, Grit/Oil Pit	1995 November
20			Rev. 2	Site-Specific Safety and Health Plan, Grit/Oil Pit	1995 December
				Site Specific Safety & Health Plan Landfills 2, 5, 6 Cap Installation Program	1996 January
045A			Draft Final	RFI Specific Site and Safety Health Plan Battery Acid Neutralization Shops, Bldgs. 8000, 4030, 8142	1996 January
			Rev. 2	Program Site Safety & Health Plan for RFI Remedial Design Activity	1996 February
				Contractor Programmatic Site Safety & Health Plan for RFI Remedial Design Activities	1996 February
			Final	Programmatic Construction Quality Assurance/ Quality Control Plan	1998 April
				Site Specific Safety & Health Plan, Petroleum Hydrocarbon Site Drilling & Remediation	1999 Aug
				Programmatic Site Safety and Health Plan for RFI and Remedial Design Activities	2003 October
Risk Based Evaluation Procedures Manual					
		Module I, Background Soil	Draft Final	RFI Work Plan, Battery Acid Neutralization Shops, Building 8000, Building 8030, Building 8142 (inclusive of background soil sampling)	1996 January
			Final	Letter Work Plan for Supplemental Background Soil Sampling	2000 June
			Draft Final	Evaluation of Background Soil Data for Fort Carson	2001 November
			Draft Final	Risk Based Evaluation Procedures Manual Module 1, Background Soil	2002 June
			Final	Site Specific Safety, Health & Emergency Response Plan for Sludge Pit Excavation	1993 January
			Draft Final, Rev. 2	Risk Based Evaluation Procedures Manual Module 1, Background Soil	2004 April
			Final	Risk Based Evaluation Procedures Manual Module 1, Background Soil	2004 April
		Module II, Background Groundwater		Proposed Final Well Selection for Background Groundwater Data Set	2001 March
			Draft Final	Work Plan, Background Groundwater Data Set	2001 July

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FTC	SWMU	Project Name	Version	Document	Date
			Final	Work Plan, Background Groundwater Data Set	2001 October
			Draft Final, Rev. 1	Sitewide Background Data set for Groundwater	2002 July
			Final	Risk-Based Evaluation Procedures Manual, Module II, Sitewide Background Data Set for Groundwater	2003 October
		Module III, Human Health RBCs	Draft Final	Development of Site Wide Risk Concentrations	2002 April
			Final	Development of Sitewide RBCs	2002 April
			Final, Rev.	Risk-Based Evaluation Procedures Manual, Module III	2002 October
			Final	Risk-Based Evaluation Procedures Manual, Module III, Sitewide RBCs, Approved	2003 March
		Module IV, Groundwater Protection	Draft Final	Development of Groundwater Protection Levels	2001 November
			Final, Rev. 1	Risk-Based Evaluation Procedures Manual, Module IV, Development of GPLs	2003 January
			Final, Rev. 2	Risk-Based Evaluation Procedures Manual, Module IV, Development of GPLs	2003 September
			Final	Risk-Based Evaluation Procedures Manual, Module IV, Development of GPLs	2003 October
		Module V, ECO	Draft Final	Ecological Reconnaissance of B Ditch, Clover Ditch, and Central Unnamed Ditch	2002 May
			Draft	Proposed Methodology, Ecological Risk Assessment	2002 July
			Draft Final, Rev. 1	Risk-Based Evaluation Procedures Manual, Module V, Ecological Risk Procedures Manual	2003 September
			Draft Final	Risk Based Evaluation Procedures Manual Module V, Tier I	2004 April
			Draft Final	Risk Based Evaluation Procedures Manual Module V, Tier II	2004 April
		Module VI, NFA	Draft Final	Risk-Based Evaluation Procedures Manual, Module VI, Methodology for Identifying No Further Action at Solid Waste Management Units	2004 March
Misc. Documents				IAP Manuals dating from 1993 through present	
			Final	RCRA Facility Assessment for Fort Carson	1994
				Integrated Solid Waste Management Plan	2000 March
				Fort Carson Restoration Advisory Guidebook	1995 February

SWMU 1 (FTC-005)
LANDFILL 1

SITE DESCRIPTION

Inactive Landfill 1 is located south of the Cantonment Area. The municipal portion of the landfill is ~50 acres and has been inactive since 1998. Fort Carson also maintained a 12 acre construction debris area (FTC-099) within the Landfill 1 Certificate of Designation boundary until 2002. Landfill 1, which was a trench operation, accepted mixed sanitary waste, waste oil, sludge and construction debris starting in 1978. Starting in 1998, Landfill 1 no longer accepted municipal wastes. Land farming of POL impacted soil was also conducted and ceased in 2002. The Grit/Oil Pit (FTC-020, SWMU 13) is located within the Landfill 1 municipal boundary. The construction debris area was located at the toe of Pete's Hill (FTC026, SWMU 14) and is now designated as FTC-099 (OMA). This site is part of the 2002 Compliance Order, No. 02-03-22-01.

Groundwater samples have detected inorganics in both upgradient and downgradient wells, at concentrations above groundwater standards, and chlorinated VOCs in several downgradient wells.

A surface water channel was constructed in 1999 to control drainage in preparation for capping of the municipal portion.

Landfill 1 has been designated as part of the Combined Landfill Area (CLA).

The CLA SWMUs include: Landfill 1 (FTC-005, SWMU1), Landfill 7 (FTC-011, SWMU 7), Grit/Oil Pit (FTC-020, SWMU 013), Petes Hill Dump (FTC-026, SWMU 014), Sludge Trench Pit (FTC-079, SWMU 018).

Submitted Interim Closure Plan for CLA which identified both solid waste and hazardous waste interim closure requirements.

Completed RFI activities and started Interim Closure Plan compliance monitoring.

Submitted RFI in June 2004.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS:
VOCs, Inorganics

MEDIA OF CONCERN:
Soil, Groundwater, Surface Water

IRP STATUS:
Response Complete

COMPLETED PHASE: RFA

CURRENT PHASE:
RFI/CMS

FUTURE PHASE:
RFI/CMS, DES, CMI, CMI(O), LTM

Human Exposure: No

Groundwater Impacted: Yes

FTC Site Priority: High

PROPOSED PLAN

Submitt CMS work plan for capping. Perform CMS.

Design and iInstall ET cap over Landfill 1 municipal area.

Continue groundwater monitoring, soil gass, and engineering controls inspections for CLA

Design and construct an iron tiling permeable reactive barrier in the Southern Drainage Area, if warranted for groundwater.

SWMU 2/3 (FTC-006/007)
LANDFILL 2/3 (1960-1978)

SITE DESCRIPTION

Landfills 2 and 3 (SWMUs 2 & 3) are former contiguous landfills located east of the Cantonment Area that were operated from 1957 to 1978. Waste at this site consists of sanitary waste, sludges from multiple sources, waste petroleum, oil, and lubricants (POL), cinder ash and, potentially, explosives and UXO. A combined trench and area fill method was used at this 80 acre site. Part of the landfill (~50 acres) is currently covered with a soil cover.

Surface water control measures were installed in 1992. Grading activities were conducted in 1998 and 2000 to further control surface water.

Leachate generated from this site has migrated to the groundwater and a contaminant plume has been identified a quarter mile downgradient of the southwest corner (plume is not defined). Groundwater samples detected VOCs (mainly 1, 2-DCA) above CGWS and inorganics (selenium and nitrates). Low levels of petroleum products have also been detected.

The workplan addendum has been submitted to include the installation of groundwater wells to determine groundwater constitutents of concern and flow directions.

STATUS

ER,A

RRSE RATING: Medium

CONTAMINANTS:

VOCs, Inorganics

MEDIA OF CONCERN:

Soil (landfill materials), Groundwater

COMPLETED IRP PHASE:

RFA, 2 IRAs

CURRENT IRP PHASE:

RFI/CMS

FUTURE IRP PHASE:

CMI, LTM

Human Exposure: No

Groundwater Impacted: Yes

FTC Site Priority: High

PROPOSED PLAN

Conduct downgradient groundwater investigation (focus on fate and transport of selenium and nitrates), submit results as a RFI Addendum, and perform risk evaluation.

Conduct landfill cover and groundwater corrective measure CMS.

Design landfill cover.

Install 4 feet ET cover on the 30 acre portion of Landfill 2 and enhance the existing cover on the 50 acre portion.

Conduct groundwater monitoring following landfill cover installation.

Long-term monitoring to include minor cover maintenance and groundwater monitoring specific to known constituents.

SWMU 4 (FTC-008)
LANDFILL 4 (1957)

SITE DESCRIPTION

Landfill 4 (SWMU 4) is located in the northeast section of the Cantonment Area. According to historical records, Landfill 4 covered approximately 14 acres (U.S. Army Environmental Hygiene Agency 1988). The landfill was excavated into the Piney Creek alluvium and operated for about 6 months in 1957 to receive construction debris, sanitary wastes and possibly small amounts of sludge and waste petroleum, oil, and lubricants. A shallow groundwater table forced the landfill to be abandoned. The Defense Reutilization and Marketing Office Storage Yard (FTC-024, SWMU 50) was subsequently built over the former landfill.

Shallow groundwater is present (less than 5 feet), and groundwater monitoring has detected metals and VOCs below drinking water standards in the vicinity of this site.

In FY02, a well was replaced and the PVC itself sampled for vinyl chloride, with detections below the practical quantitation limits.

The Final RFI Report, Revision 2, was approved in October 2003.

STATUS

ER,A

RRSE RATING: Low

CONTAMINANTS:
VOCs, Metals

MEDIA OF CONCERN: Soil, (landfill materials), Groundwater, Surface Water

COMPLETED IRP PHASE:
RFA, RFI/CMS

CURRENT IRP PHASE:
LTM

FUTURE IRP PHASE: RC

Human Exposure: No
Groundwater Impacted: No
FTC Site Priority: Low

PROPOSED PLAN

Perform risk evaluation.

Long-term monitoring includes 2 years of groundwater monitoring and biannual asphalt inspections.

Installation-wide programmatic costs are also accounted for at this site.
These include perimeter monitoring wells, data base management,
technical and program support, ERIS data entry (1X), annual updates of risk assessment modules.

SWMU 5 (FTC-009)
LANDFILL 5 (1946-1956)

SITE DESCRIPTION

Landfill 5 is an abandoned landfill located in the northeast corner of the Cantonment Area, close to the installation boundary, covering ~20 acres. It was operated from 1946 to 1956. Historical records indicate that accepted wastes included construction debris, mixed sanitary waste, waste POL, waste from the old mule barn area, coal cinders and ash. The RFI report was approved in Sept 2001.

This site is located upgradient of the Piney Creek alluvial aquifer that drains into the Fountain Aquifer. The Fountain Aquifer is one of the three main drinking water sources in the area. There is potential for migration of contaminants to the adjacent B Ditch.

A composite cap (IRA) with an asphalt surface was installed in fall 1999 over 5 acres of the site to manage stormwater runoff and facilitate vehicle parking for the 96th ARCOM. In 2000, an evapotranspiration (ET) cap (IRA) was installed over 15 acres and upgradient and downgradient wells were installed. Moisture monitoring at the ET cap continues to show performance above expectations.

Groundwater monitoring has detected nitrates above drinking water standards leaving the post. Off-post groundwater has been declared as otherwise suitable for domestic use. TCE has also been detected and concentrations have dropped under CGWS in recent years. Installation-wide distribution of nitrates in groundwater is being investigated under OMA.
Methane has been found in this asphalt area (west of Motorpool Cap).

STATUS

ER,A

RRSE RATING: High

CONTAMINANTS:
VOCs, Metals

MEDIA OF CONCERN: Soil (landfill materials), Groundwater, Surface Water

COMPLETED IRP PHASE: RFA, IRA

CURRENT IRP PHASE:
RFI/CMS

FUTURE IRP PHASE:
DES, CMI, LTM

Human Exposure: Unknown
Groundwater Impacted: Yes
FTC Site Priority: High

PROPOSED PLAN

Install Methane vents.

Check use (if any) of shallow groundwater in the nearby off-post area. Install wells off-post after obtaining appropriate approval.

Continue ET cap performance monitoring and semi-annual groundwater monitoring in accordance with Appendix H of the ET Cap Work Plan.

Conduct a groundwater CMS.

Design a permeable reactive barrier (PRB) with mulch as the anticipated media, to address the nitrate contamination.

Install the PRB.

Conduct performance monitoring of the PRB.

Long-term monitoring to include minor cap maintenance and groundwater monitoring according to the revised Appendix H of the ET Cap Work Plan.

SWMU 6 (FTC-010)
LANDFILL 6 (1942-1946)

SITE DESCRIPTION

Landfill 6 was an abandoned landfill located at the west side of the Cantonment Area near installation housing. This 13.6 acre landfill was operated from 1942 to 1946 as a trench-type landfill. Prior to removal, the specific nature of the landfill activities were unknown, but consisted of construction debris, mixed sanitary waste, sludges, medical waste, municipal waste and waste POL, based on observations during removal. Landfill 6 was excavated in 2000 (using non-IRP funds). However, 40 cubic yards of landfill debris was left under the existing water main, due to concerns regarding the piping material.

TCE, PCE and vinyl chloride were detected in groundwater before the debris was removed. These detections were above Colorado groundwater standards at the center of the landfill, but not in the landfill perimeter wells.

A Final RFI report was submitted to CDPHE in May 2000 and approved.

CDPHE approved the Final Certification Report for waste relocation in April 2004.

Submitted Waste Relocation Construction Completion Report in May 2004.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS: SVOCs, VOCs, Pesticides, Herbicides, Metals

MEDIA OF CONCERN:
Soil, Groundwater, Surface Water

IRP STATUS:
Response Complete (OMA site)

COMPLETED PHASE:
RFA, RFI/CMS, IRA

CURRENT PHASE: LTM

FUTURE PHASE: LTM

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

Submit a NFA Request to CDPHE to include a risk evaluation and continue annual groundwater monitoring.

SWMU 7 (FTC-011)
LANDFILL 7 (1968-1978)

SITE DESCRIPTION

Landfill 7 is located within the Landfill 1 certificate of designation. It operated as a canyon fill landfill from 1968 to 1978 accepting construction debris. Landfill 7 has recently been included as part of the Combined Landfill Area (CLA) and will undergo interim monitoring until closure. The total area of the landfill is 6 acres and the site currently has a soil cover.

In a 1997 voluntary investigation, two temporary groundwater monitoring wells were installed, however, groundwater was not encountered.

Implemented the CLA Interim Monitoring/Closure Plan under Compliance Order #02-03-22-01.

Submitted RFI in June 2004 as part of the CLA RFI.

STATUS

ER,A

RRSE RATING: Low

CONTAMINANTS: VOCs, SVOCs, Pesticides, Herbicides and Metals (as specified by the RCRA Part B Permit)

MEDIA OF CONCERN:
Soil, Groundwater, Surface Water

COMPLETED IRP PHASE: RFA

CURRENT IRP PHASE:
RFI/CMS

FUTURE IRP PHASE:
LTM

Human Exposure: No

Groundwater Impacted: Unknown

FTC Site Priority: High

PROPOSED PLAN

Perform risk evaluation to establish no threat to human health or environment.

Model existing cover performance.

Long-term monitoring includes minor maintenance and groundwater monitoring as part of the CLA.

SWMU 8 (FTC-012)
LANDFILL 8 (1972-1973)

SITE DESCRIPTION

Landfill 8 consists of two canyon fill landfills (construction debris) which operated from 1972 to 1973. It is located north of FTC-006, Landfill 2. RFI field work activities were conducted in 2002 and included trenching activities, soil gas monitoring, and new well installation (all dry).

Preliminary RFI data shows the total area of both portions at 13 acres, with minimal impacts to ground and surface water. However, VOCs below groundwater standards have been detected in two downgradient wells.

The Draft Final RFI was submitted in July 2003.

A CMS is not expected, since this a construction debris landfill.

STATUS

ER,A

RRSE RATING: Medium

CONTAMINANTS: VOCs, SVOCs, Pesticides, Herbicides and Metals (as specified by the RCRA Part B Permit)

MEDIA OF CONCERN:
Soil, Groundwater, Surface Water

COMPLETED IRP PHASE: RFA

CURRENT IRP PHASE:
RFI/CMS

FUTURE IRP PHASE:
DES, CMI, CMI(O), LTM

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

Perform risk evaluation to establish no htreat to human health or environment.

Design and construct a 2-foot cover.

Maintain the cover for five years until the vegetation is established.

Long-term monitoring includes minor maintenance of the cover and five years groundwater monitoring.

SWMU 9 (FTC-013)
LANDFILL 9 (1965-1973)

SITE DESCRIPTION

Landfill 9 is a 7.5 acre, abandoned landfill located south of the Cantonment Area. The specific nature of activities conducted during the landfill's period of operation (1965 to 1973) is unknown, but most likely consisted of construction debris.

Two temporary wells were installed downgradient of the landfill during the RFA and contained metals below groundwater standards but above interim background levels.

The workplan was submitted in January 2004.

PROPOSED PLAN

Complete RFI fieldwork in 2004.

Complete RFI and perform risk evaluation.

Monitor groundwater for two years if required based on RFI results.

Evaluate existing cover to comply with solid waste regulation.

Maintain the cover for five years until the vegetation is established.

Long-term monitoring includes minor maintenance of the cover.

STATUS

OMA & ER,A

RRSE RATING: Low

CONTAMINANTS: VOCs, SVOCs, Pesticides, Herbicides and Metals (as specified by the RCRA Part B Permit)

MEDIA OF CONCERN:
Soil, Groundwater, Surface Water

COMPLETED IRP PHASE:
RFA

CURRENT IRP PHASE: RFI/CMS

FUTURE IRP PHASE:
RFI/CMS, DES, CMI, CMI(O), LTM

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

SWMU 10 (FTC-014)
LANDFILL 10

SITE DESCRIPTION

Landfill 10, reportedly located in the northeast portion of the Cantonment Area, is listed as an inactive landfill in the Part B Permit. The dates of landfill operation are unknown. Investigations at this site included the installation of four groundwater monitoring wells (1996) as part of a relative risk evaluation, and a visual site inspection (1997) and excavation of 14 trenches to search for evidence of landfill activity (1998) as part of the RCRA Facility Investigation. There were no signs of landfill activities at the suspected location of the landfill, and no waste materials were encountered in any of the 14 trenches excavated at the site. In addition, the presence of landfill operations in the reported location of Landfill 10 was not identified in a review of aerial photographs from 1948 through 1984.

STATUS

OMA

RRSE RATING: Low

CONTAMINANTS:

None

MEDIA OF CONCERN:

None

COMPLETED PHASE:

RFA, RFI

CURRENT PHASE:

RC

Based on historical knowledge and site-specific investigations, a specific location could not be identified for Landfill 10 and there was no indication that a release of hazardous wastes, including hazardous constituents, has occurred. In addition, it was determined that operations at this location have not resulted in any releases that pose any threat to human health and the environment. Therefore, it was recommended that NFA be selected as the remedy for this SWMU.

No Further Action was selected as the final remedy for this site as described below in the Part B Permit:

"A report of landfilling activities in and within the immediate vicinity of theSW1/4, SW1/4, SW1/4 of Section 10, Township 15 South, Range 66 West of the 6th Principal Meridian (Colorado Springs, CO Quadrangle) at Fort Carson was designated as Landfill 10. The results of investigations are described in the RFI Report dated January 2000 and approved by the Director on December 4, 2000. A No Further Action Request letter dated March 8, 2002, and approved by the Director on March 22, 2002, provided sufficient basis to document the selected remedy."

PROPOSED PLAN

None.

SWMU 11 (FTC-015)
LANDFILL 11

SITE DESCRIPTION

Landfill 11, an abandoned landfill, 2.7 acres in size, is located in the vicinity of Clover Ditch near Gate 20 in the eastern boundary of the installation and upgradient of a domestic water supply. The specific nature of landfilling activities at this site is unknown. The RFA indicates that incinerator ash was disposed of here. However, the RFI trenching activities found only construction debris.

Samples collected downgradient of this site at the Installation boundary did not detect metals in the groundwater at concentrations above groundwater standards.

The RFI (2001) samples detected low (below action) levels of 1,1,1-TCA in upgradient groundwater. However, upgradient SWMUs are determined to be the sources to groundwater.

The RFI has been submitted and approved in March 2004.

STATUS

OMA & ER,A

RRSE RATING: Low

CONTAMINANTS:

Metals

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

RFA, RFT/CMS

CURRENT IRP PHASE:

DES, CMI, CMI(O)

FUTURE IRP PHASE:

LTM

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

Perform risk evaluation to establish no threat to human health or the environment.

Monitor groundwater for five years if required based on RFI results. (Minimum of one year/quarterly monitoring and then annual monitoring for 4 years.)

Evaluate existing cover. Augment as necessary (OMA).

Maintain the cover for five years until the vegetation is established.

Long-term monitoring includes minor maintenance of the cover.

SWMU 12 (FTC-016)
LANDFILL 12

SITE DESCRIPTION

Landfill 12, reportedly located just north of the El Paso County line, southeast of the Impact Area, was reported to cover less than one hectare and to contain vehicle parts. The dates of landfill operations are unknown. Based on background information (document search) and visual site inspections, there was no evidence indicating the existence of a landfill and no indication that a release occurred in the area identified as Landfill 12. In addition, there was no written indication that landfill activities had actually occurred in the area, and there are no signs of ground disturbances or fill materials in the general area. Since no discernable unit or evidence of release has been identified in association with Landfill 12, it was recommended that no further action be granted for Landfill 12.

No Further Action was selected as the final remedy for this site as described below in the Part B Permit:

"A report of landfilling activities in the vicinity of Section 36, Township 17 South, Range 66 West (Buttes, CO Quadrangle) at Fort Carson was designated as Landfill 12. An RFI Work Plan, designed to locate and investigate the landfill, was approved on July 16, 1997. A review of aerial photographs and a site visit of four potential locations yielded a site with surface subsidence as the most likely location for Landfill 12. Electromagnetic geophysical surveying and direct push sampling of the site showed that landfilling activities did not occur at the suspected site. The results of the investigations are described in the RFI Report dated January 1998. The report was approved by the Director on March 31, 1998. No Further Action is required at this site at this time. In the event a landfill site is detected which matches the reported activities, it must be reported as a newly identified solid waste management unit as required by Part IV.C.2 of this permit."

STATUS

OMA

RRSE RATING: NE

CONTAMINANTS:

None

MEDIA OF CONCERN:

None

COMPLETED IRP PHASE:

RFA

CURRENT IRP PHASE:

RC

PROPOSED PLAN

None.

SWMU 13 (FTC-020)
GRIT OIL PIT

SITE DESCRIPTION

The Grit/Oil Pit was an open pit where Fort Carson deposited the material from the vehicle wash facilities, and the Industrial and Sanitary Wastewater Treatment Plant sludge. This pit is located in the southwest corner of Landfill 1 (FTC-005) and was operated from 1985 to 1989. The material was placed in a trench measuring 240 x 60 x 30 ft. This site was included in both the 1994 and 1997 Compliance Order on Consent.

Samples collected from sludges within the pit, in 1987, 1990, and 1991, detected metals and TPH at low levels. In March of 1994, three composite samples for metals and three discrete samples for VOCs were collected from the sludge material within the pit. Additional sludge, soil, and groundwater samples were taken early in 1996 and in October 1997 as required in the Compliance Order on Consent. These samples have indicated the presence of metals, VOCs (including TCE, and vinyl chloride), BTEX, and PAHs in the sludges, surrounding soil and in leachate/groundwater immediately downgradient of the site.

In 1998, a surface water control measure (temporary cap) was placed over the pit. Interim measures (cap, water and product removal) were conducted beginning in 1999, and have largely removed the oily product from the pit. The RFI was approved in March 2000. In 2002, a SVE pilot test was completed and considered moderately successful.

The Grit/Oil Pit has been included as part of the Combined Landfill Area (CLA) and will undergo interim monitoring until closure.

Implemented the CLA Interim Closure Plan under Compliance Order #02-03-22-01

STATUS

ER,A

RRSE RATING: Medium

CONTAMINANTS:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater, Surface Water

COMPLETED IRP PHASE:
RFA, 3 IRAs

CURRENT IRP PHASE:
RFI/CMS, IRA

FUTURE IRP PHASE:
RFI/CMS, DES, CMI, CMI(O)

Human Exposure: No

Groundwater Impacted: Yes

FTC Site Priority: High

PROPOSED PLAN

Conduct a groundwater CMS.

The pit contents will be removed by winter 2004. The majority of the material is expected to be disposed of as material no longer containing hazardous waste (funded with prior year dollars). The area will be subsequently covered as part of the Landfill 1 effort (OMA funded).

Design and construct the groundwater corrective measure (likely to be reductant injection).

Conduct monitoring of corrective measures until performance is proven.

Long-term monitoring includes groundwater monitoring as part of the CLA.

SWMU 14 (FTC-026)
PETE'S HILL

SITE DESCRIPTION

Pete's Hill is an inactive landfill where waste and construction debris was dumped over the head wall of a box canyon from sometime before 1976 to the early 1990s. The landfill cover ~13.5 acres. Records indicate that the site received constructions debris, municiple waste and wash rack residuals. In 1992/93, the area was recontoured and covered to control surface water. Preliminary RFI activities were conducted in 2002. Data will be included as part of the Combined Landfill Area (CLA) RFI.

Groundwater samples collected from monitoring wells have detected low levels of metals. VOCs have been detected at levels below regulatory levels. Monitoring wells installed between Landfill 1 (FTC-001) and Pete's Hill have detected metals above background levels but below groundwater standards.

Pete's Hill will undergo interim monitoring until closure.

Implemented the CLA Interim/Closure Plan under Compliance Order #02-03-22-01.

Submit RFI in June 2004 as part of the CLA RFI.

STATUS

ER,A

RRSE RATING: Medium

CONTAMINANTS:

Metals

MEDIA OF CONCERN:

Soil (landfill material), Groundwater

COMPLETED IRP PHASE:

RFA, IRA

CURRENT IRP PHASE:

RFI/CMS

FUTURE IRP PHASE:

RC

Human Exposure: No

Groundwater Impacted: Unknown

FTC Site Priority: High

PROPOSED PLAN

Perform risk evaluation.

Evaluate and model existing cover performance.

Improve surface water diversion. Long Term Monitoring will follow.

SWMU 16 (FTC-058)
FORMER VAPOR DEGREASER

SITE DESCRIPTION

The vapor degreaser operated from the mid 1970s until 1992, when it was removed. The vapor degreaser was used by maintenance personnel to clean parts with either TCE or 1,1,1-Trichloroethane as a degreasing solvent. The stainless steel vapor unit was located in a 7 foot deep concrete lined pit. The pit, located in Building 8000, is currently covered by a grate and used to control the wash water generated from general housekeeping activities within Building 8000 and the wash water that drips from the nearby Jet Spray Washers.

Chlorinated VOCs have been detected in the soil below the pit in sampling events between 1992 and 1996, but groundwater was not encountered during the RFI activities. After the first phase of the RFI, CDPHE requested additional soil samples below the sump area. In November 1999, additional soil samples were taken and the sump and contaminated soil was removed. The sump was backfilled with clean gravel and covered with concrete. During site restoration, two temporary wells were installed in the former sump excavation.

In 2001, water trapped in the former sump excavation was sampled and purged (total of 119 gallons) on a quarterly basis to determine if shallow groundwater or residual liquid was the source of the water. Due to fluctuating concentrations of chlorinated solvents and the volume of water purged each quarter, Fort Carson was unable to discern if the source of the water was groundwater or residual waste water.

STATUS

ER,A

RRSE RATING: Medium

CONTAMINANTS:
VOCs, Solvents

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
RFA, IRA

CURRENT IRP PHASE:
RFI/CMS (funded), CMI(O)

FUTURE IRP PHASE:
CMI(O), LTM

Human Exposure: No
Groundwater Impacted: Yes
FTC Site Priority: Medium

The RFI report was submitted to the CDPHE in October 2002 and approved in November 2002 with the request of a CMS for the impacted residual soil around the former sump and impacted groundwater.

A workplan for further groundwater investigation was submitted in March 2004 (funded under FTC-033).

PROPOSED PLAN

Additional groundwater investigation will be completed for the whole Building 8000 area to support the CMS (funded under FTC-33, SWMU 53).

Prepare CMS for soil and groundwater and perform risk evaluation (FTC-033).

Implement corrective measure (anticipate reductive dechlorination).

Monitor corrective measure for effectiveness.

SWMU 17 (FTC-058)
JET SPRAY WASHERS, BUILDING 8000

SITE DESCRIPTION

The Jet Spray Washers are located in Building 8000 and are currently active. They were installed in 1992 to replace the former Vapor Degreaser (SWMU 16), a 2,000-gallon stainless steel tank set in a concrete-lined pit used to remove grease and dirt from vehicle engines and parts using trichloroethane. The Jet Spray Washers include 12 freestanding units that use heated water and detergent to remove the oil grime from the vehicle parts. The waste oil residues are separated from the water, the water is recycled in the washers, and the waste residue is discharged to the industrial sewer.

Investigations performed to date have only included the initial facility assessment performed in 1994 and documented in the Final FCRA Facility Assessment for Fort Carson (SAIC, May 1994). After performing site visits, conducting interviews and reviewing available site information, it does not appear that the Jet Spray Washers use or have previously used hazardous constituents as part of the operations. Based upon historical knowledge, no release or hazardous wastes, including hazardous constituents, has occurred, and operations at this SWMU have not resulted in any releases that pose any threat to human health and the environment. Therefore, it was recommended that NFA be selected as the remedy for this SWMU. No Further Action was selected as the final remedy for this site as described below in the Part B Permit:
"The Jet Spray Washer system is located inside Building 8000, (SE1/4, NW1/4, SE1/4 of Section 9, Township 15 South, Range 66 West of the 6th Principal Meridian (Colorado Springs, CO Quadrangle). A No Further Action Request letter dated March 8, 2002, and approved by the Director on March 22, 2002, provided sufficient basis to document the selected remedy."

STATUS

OMA

RRSE RATING: NE

CONTAMINANTS:

None

MEDIA OF CONCERN:

None

COMPLETED IRP PHASE:

RFA

CURRENT IRP PHASE:

RC

PROPOSED PLAN

None.

SWMU 18 (FTC-079) SLUDGE TRENCH

SITE DESCRIPTION

The unlined pit received waste sludge from the Industrial Wastewater Treatment Plant (IWTP) (SWMU 21) ponds upon approval from CDPHE (Final RCRA Facility Assessment for Fort Carson, Colorado; Science Applications International Corp., 1994). The sludge consisted primarily of oily sand, silt, and clay. Three requests for disposal of sludge from the IWTP to be placed in the Sludge Trench Pit were submitted to the CDPHE for approval. In 1985, 2,300 cubic yards of IWTP sludge was approved for disposal in the pit. In 1988, the second request for 7,000 cubic yards of sludge from the IWTP was declined on the basis of hazardous constituents in the waste. After resampling the sludge, a third request was made in 1989 submitted for approval. It is not known if approval was granted or if the sludge was disposed in the pit.

A groundwater investigation was conducted in Sept 1996 (Letter Report for Relative Risk Groundwater Sampling of Selected Sites). Groundwater was not encountered.

In Jun 1997, a hand auger sample was collected to characterize the contents of the pit. Results indicated petroleum hydrocarbons and metal contaminants. No VOCs were detected.

STATUS

ER,A

RRSE RATING: High

CONTAMINANTS:

Petroleum Hydrocarbons, Metals

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

RFA, IRA

CURRENT IRP PHASE:

RFI/CMS

FUTURE IRP PHASE:

RC

Human Exposure: No

Groundwater Impacted: Unknown

FTC Site Priority: High

Precharacterization sampling activities were conducted in Mar and Apr 2001 to provide aerial extent, depth to sludge materials, and thickness of sludge materials. In Aug 2001, approximately 16,530 bcy of soil/sludge was removed. Low levels of petroleum hydrocarbons were detected and elevated levels of oil and grease were identified. Other than one estimated concentration of methylene chloride, a common laboratory contaminant, no additional organics were identified. The Draft Final RFI Report was submitted to CDPHE in December 2002.

The Sludge Trench Pit has been included as part of the Combined Landfill Area (CLA). Existing RFI data will be supplemented with data collected as part of the CLA investigation.

RFI will be submitted in June 2004.

PROPOSED PLAN

Perform risk evaluation and submit a NFA request.

SWMU 19 (FTC-047)
LAND SPREADING FIELD (STP SLUDGE)

SITE DESCRIPTION

This site is an open area ~2 acres in size where digested sewage sludge was placed into three bermed areas. Some of this sludge may have been spread and tilled into the soil around the lagoons. The Land Spreading Field is located east of Landfill 1 (FTC-005). Operations began in the early 1980s and continued until 1988. During multiple site visits, considerable evidence of black organic soils, toiletry debris, and trash were observed. Samples collected at the STP indicated that low levels of metals were present in the sludge.

A number of groundwater monitoring wells west of the Land Spreading Field have been historically dry. One well, MW92-5, existing in close proximity to the site, has been dry during most sampling events.

A RFI work plan was submitted to CDPHE in January 2002. RFI activities included the collection of soil samples and the installation of temporary wells in and around the three bermed areas. Limited concentrations of semi-volatile organic compounds and inorganics above risk based concentration and groundwater protection levels were detected in shallow soil samples. No indications of sludge (i.e., sludge-like material, disturbed soils, debris) at shallow depths were observed during field activities. No groundwater was encountered for sampling.

The RFI has been submited. Additional field work is required.

STATUS

ER,A

RRSE RATING: Low

CONTAMINANTS: SVOCs, VOCs, Metals (as specified by the RCRA Part B Permit)

MEDIA OF CONCERN: Soil, Surface Water, Groundwater

COMPLETED IRP PHASE: RFA

CURRENT IRP PHASE: RFI/CMS

FUTURE IRP PHASE: RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

Submit a letter workplan for installation of one groundwater well and soil sampling. Additional field work is required per CDPHE.
Complete RFI, perform risk evaluation and request NFA.

SWMU 21 (FTC-031/059)
INDUSTRIAL WASTEWATER PLANT (ACTIVE)

SITE DESCRIPTION

The Industrial Wastewater Treatment Plant (FTC-031), which has been in operation since 1981, consists of two asphalt-lined, sedimentation lagoons (FTC-059), with oil skimmers and two aeration lagoons. This facility operates under an EPA permit (NPDES permit CO-0021181, EPA Region VIII).

This facility provides treatment of oily wastewater and the recycling of used/waste oil from vehicular maintenance facilities. Wastewater from the wash racks and maintenance areas flow to the free oil separator where oil is removed. Effluent flows to the aeration lagoons where further treatment occurs, then to the sewage treatment plant. The basins are periodically drained, after a sufficient amount of solids have accumulated. Dried sludge was disposed of in the land farming area at Landfill 1 prior to closure.

In 1998, the free oil water separator (FOS) at Building 3709 was upgraded to include a vortex grit separator.

In 2000, FTC-059, Industrial Wastewater Treatment Plant Ponds, was combined with this site in the AEDB-R program.

1,1,1-TCA has been detected significantly below CGWS during the Landfill 11 RFI (with an upgradient source) and the upgradient limit was estimated to be near the Industrial Wastewater Treatment Plant.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS: SVOCs, VOCs, Metals (as specified by the RCRA Part B Permit)

MEDIA OF CONCERN: Soil, Groundwater, Surface Water, Sludge

IRP STATUS:
Response Complete (OMA site)

COMPLETED PHASE: RFA

CURRENT PHASE: RFI/CMS

FUTURE PHASE: RFI/CMS, LTM

Human Exposure: Unknown

Groundwater Impacted: Unknown

FTC Site Priority: Medium

PROPOSED PLAN

Perform baseline RFI and submit an RFI report for this active facility. Document that current procedures at the Industrial Eastewater Treatment Plant are adequate to be regulated fully under NPDES permit.

Perform a risk assessment to identify if Interim Measures are required.

This site will be closed when the facility operations are terminated.

SWMU 22 (FTC-042)
SEWAGE TREATMENT PLANT (ACTIVE)

SITE DESCRIPTION

The Sewage Treatment Plant is located at the southeast corner of the Cantonment Area at Fort Carson. This tertiary treatment facility was built in the 1940s and portions of the original treatment plant were deactivated in December 1998 when upgrades (new process units) for the Sewage Treatment Plant were activated. When the old units were demolished, soil samples were collected from below the trickling filters, primary clarifiers, secondary clarifiers and anaerobic digesters. These units were backfilled with concrete debris and a soil cover after soil sampling. A portion of the treated effluent is discharged from the Sewage Treatment Plant to the Golf Course Effluent Holding Pond (FTC-036/SWMU 32).

There is no evidence of past releases to the environment, and waste management activities are conducted in accordance with NPDES regulations.

The Process Unit Demolition Report summarizes the sampling conducted during the demolition activities (data to be incorporated into RFI report).

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS:
VOCs, SVOCs, Metals

MEDIA OF CONCERN: Soil, Groundwater, Surface Water, Sludge

IRP STATUS:
Response Complete (OMA site)

COMPLETED PHASE:
RFA, IRA

CURRENT PHASE: RFI/CMS

FUTURE PHASE: RFI/CMS

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

Perform baseline RFI and submit an RFI for this active facility. Document that current procedures at the Sewage Treatment Plant are adequate to be regulated fully under NPDES permit.

Perform a risk evaluation.

This site will be closed when the facility operations are terminated.

SWMU 23 (FTC-039)
SEWAGE TREATMENT LAGOONS AT BAAF

SITE DESCRIPTION

This site consisted of two evaporation lagoons, each ~2 acres in size, where wastewater from Butts AAF was discharged. In addition, water and fire retardant chemicals used in fire training exercises were discharged to the lagoons periodically when the fire training area oil/water separator was allowed to flow. The facility was operated from the 1960s until 1997, when a sewer line was installed to the Cantonment Area.

PCE has been detected above groundwater standards in several wells on the west side of the site, and low levels of metals were encountered in the sludge within the lagoons. DPW removed the sludge from the lagoons in 1999 and backfilled the site. Additional soil and groundwater samples were collected beneath the former lagoons in 2000, but PCE was not detected in these samples.

In 2001, 2002, and 2003, additional soil and groundwater samples were collected at the site to address CDPHE comments on RFI activities.
Sewage Treatment Lagoons (FTC-039, SWMU 24) and the Fire Training Area are collectively being investigated as the Butts East Combined sites.
Submitted the revised RFI Report in April 2004, as part of the BECS RFI.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS: VOCs

MEDIA OF CONCERN: Soil, Surface Water, Groundwater, Sludge

IRP STATUS:

Response complete (OMA site)

COMPLETED PHASE:

RFA

CURRENT PHASE: RFI/CMS

FUTURE PHASE:

RFI/CMS, CMI, CMI(O), LTM

Human Exposure: No

Groundwater Impacted: Yes

FTC Site Priority: Medium

PROPOSED PLAN

Submit a CMS work plan. Perform CMS for groundwater.

Implement in-situ (SVE/Air Sparge) treatment of soil near Oil/Water Separator Area and Old Flammable Storage Pad Area (one system setup).

Continue groundwater monitoring for 8 wells in perimeter to monitor effectiveness of remedy.

Perform a risk evaluation.

SWMU 24 (FTC-021/022) FIRE TRAINING AREA

SITE DESCRIPTION

SWMU 24 consists of FTC-021 and former FTC-022. The two sites were combined under one AEDB-R number because they are contiguous sites.

FTC-021 was a 60 x 60 x 3 ft deep concrete basin (which was removed in 1996) located at the east end of Butts Army Airfield. Burns were conducted from the 1960s to 1993. The water and fire-retardant chemicals used in the exercises were discharged to an oil/water separator, which discharged to the adjacent sewage treatment lagoon (FTC-039).

The storage area (former FTC-022), where off-specification/waste fuels were stored for exercises at the adjacent fire training area, was used from the 1970s to 1992. The storage area is located immediately east of the Abandoned Fire Training Area.

In 1992, the U.S. Army Corps of Engineers Research Laboratories (CERL) conducted a sludge study. Samples collected from the oil/water separator detected metals, chlorinated VOCs, and TPH. The oil/water separator was removed in 2000. Additional soil and groundwater samples taken in 1995-2000 indicated PCE above groundwater standards (5ug/L) in several wells located up to 500 ft downgradient from the storage area.

STATUS

ER,A

RRSE RATING: High

CONTAMINANTS:
VOCs, POL, Solvents

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
RFA, IRA

CURRENT IRP PHASE:
RFI/CMS

FUTURE IRP PHASE:
DES, CMI, CMI(O), LTM

Human Exposure: No

Groundwater Impacted: Yes

FTC Site Priority: Medium

In 2001, removal of the oil/water separator, separator contents and surrounding shallow soil was completed. Leaks were detected in the
piping between the concrete structure and the oil/water separator
resulting in solvent and POL-contaminated soil still at the site. In 2001, 2002, and 2003, additional soil and groundwater samples were collected at the site to address CDPHE comments on the RFI report.Submitted RFI report (in conjunction with Sewage Treatment Lagoons, in 2004) with data from recent investigations.

PROPOSED PLAN

Prepare CMS.

Implement in-situ (SVE/air sparge) treatment of soil near oil/water separator area and old flammable storage pad area (one system setup).

Continue to monitor groundwater and evaluate the need for future actions.

Perform a risk evaluation.

Prepare NFA request.

SWMU 25 (FTC-040)
FORMER OPEN DUMPING AREA, RANGE 121

SITE DESCRIPTION

Range 121 consists of two separate sites: Open Detonation Grounds (FTC-019/SWMU 47) and Open Dumping Area (FTC-040/SWMU 25). The Open Detonation Grounds are located approximately 0.25 mile north of the Open Dumping Area along the Young Hollow drainage.

Ash from open burning of bomb dummy units (BDUs) at Range 123, vehicle targets and various other range scrap was deposited in and near the edge of Young Hollow drainage over less than 1 acre of land. The dates of these activities are unknown.

Investigations at the site were initiated in 1994 as part of the Group B sites (Range 1A, Range 121, Range 123 and Demolition Area) and reported in the Draft Final RFI Report for Group B Sites in September 1999. Soil samples detected inorganics at concentrations above assessment criteria. No groundwater was sampled in this area.

Additional field activities were conducted in 2001 to remove surficial debris and collect surface soil samples. Results of soil sampling detected inorganics at concentrations above interim background levels and explosives. A large amount of metal debris was shipped off-site by Fort Carson for recycling.

Fort Carson Range Control implemented erosion control measures in and around Young Hollow drainage in 2002.

The investigation of this site is being paid for with IRP funds, all other phases will be paid with non-IRP funds.

STATUS

OMA & ER,A

RRSE RATING: Low

CONTAMINANTS:
Metals, Explosives

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED PHASE:
RFA

CURRENT PHASE:
NONE

FUTURE PHASE:
RFI/CMS

Human Exposure: Unknown

Groundwater Impacted: Unknown

FTC Site Priority: Low

PROPOSED PLAN

RFI activities are suspended until site is no longer an active range. In the interim, two downgradient wells will be sampled quarterly for two years beginning in 2003, then annually until the site becomes inactive, to monitor for potential off-site migration of explosives and nitrates. Funding for the monitoring activities is funded under FTC-019/SWMU 47 (Open Detonation Area).

SWMU 26 (FTC-073)
EQUALIZATION BASIN, BLDG 1399 (ACTIVE)

SITE DESCRIPTION

The Equalization Basin was a surface impoundment used to collect industrial wastewater from the 8000 maintenance area. The Equalization Basin is an asphalt-lined basin (bottom area of ~90 x 90 feet, top area of 285 x 190 feet, and 12 feet deep) and is underlaid by 3 feet of clay. In accordance with the 1997 Order on Consent, a free-oil separator (FOS) was installed at Building 1395 in May 1998. Reactive sulfide sludges were removed from the basin in May 1998, and the asphalt liner was decontaminated. Soil and groundwater samples were collected from below the liner and primarily show the presence of POL and metals in soil and VOCs in groundwater.

Wells in the vicinity of the Equalization Basin have been included in the Quarterly Groundwater Monitoring Program. Samples from these wells contain low levels of TCE above groundwater standards and inorganics (nitrates and selenium) above groundwater standards. The concentrations are higher in the upgradient wells than the down gradient wells.

The RFI was approved by CDPHE in 1999.

Annual groundwater reports have been submitted per the 1997 Order of Consent.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS:
SVOCs, VOCs, Metals

MEDIA OF CONCERN:
Soil, Surface Water, Groundwater

IRP STATUS:
Response Complete (OMA site)

COMPLETED PHASE:
RFA, IM (Sludge), RFI/CMS

CURRENT PHASE: LTM

FUTURE PHASE: LTM

Human Exposure: No

Groundwater Impacted: Unknown

FTC Site Priority: Low

PROPOSED PLAN

Prepare letter to CDPHE requesting a reduction in groundwater monitoring.

Perform a risk evaluation and continue groundwater monitoring.

SWMU 27 (FTC-044)
DRAINAGE DITCH ADJACENT TO BUILDING 301

SITE DESCRIPTION

This site is also known as the Drainage Ditch Adjacent to Building 301 in the Part B Permit. Drainage from a wash rack and garage was discharged through underground pipes that emptied into this ditch from the 1950s to 1981. This ditch drains to B Ditch.

Samples were collected from groundwater, surface water and sediment. Sampling results have not indicated any constituents of concern above groundwater standards, but low levels of VOCs (PCE) were detected.

The Revised RFI Report was approved by CDPHE in 2002.

PROPOSED PLAN

Submit a NFA request with a risk evaluation (funded in FY02).

STATUS

ER,A

RRSE RATING: Low

CONTAMINANTS:

VOCs

MEDIA OF CONCERN:

Surface Water, Groundwater

COMPLETED IRP PHASE:

RFA, RFI/CMS

CURRENT IRP PHASE:

NFA

FUTURE IRP PHASE:

RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

SWMU 29 (FTC-045A)
BATTERY ACID NEUTRALIZATION BLDG 8030

SITE DESCRIPTION

A total of three Battery Shops exist as SWMUs at Fort Carson: SWMU 28/FTC-045B–Building 8000, SWMU 29/FTC-045A – Building 8030, and SWMU 30/FTC-045C–Building 8142. The shop at Building 8030 (SWMU 29) operated from approximately 1980 to 1993. Electrolytes from batteries were discharged into a floor drain. The drain leads to a holding/neutralization tank where the electrolyte was neutralized with sodium bicarbonate before being discharged to the industrial wastewater system. In 1993, the area around the floor drain was excavated to repair the drain. However it was not possible to repair the drain, as the drain was plugged. The shop room is currently utilized as a break room.

The soil samples collected in 1999 contained inorganics above interim background levels, but below regulatory levels. A few hydrocarbon compounds were also detected in soil samples at low concentrations. Groundwater was not encountered in the wells installed for the RFI at this site. The sump was sampled in 2001, and cleaned and decontaminated in 2002.

In 2001, the RFI report (for all three SWMUs) was submitted to CDPHE (Earth Tech 2001) and was approved by CDPHE in 2002.

STATUS

ER,A

RRSE RATING: Not Applicable

CONTAMINANTS: VOCs

MEDIA OF CONCERN:

Groundwater

IRP STATUS:

Response Complete (OMA site)

COMPLETED PHASE:

RFA, RFI/CMS

CURRENT PHASE: NFA

FUTURE PHASE: RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

Prepare a risk evaluation (except groundwater) with NFA request.

SWMU 28 (FTC-045B)BLDG 8000
BATTERY ACID NEUTRALIZATION SHOP (ACTIVE)

SITE DESCRIPTION

A total of three Battery Shops exist as SWMUs at Fort Carson: SWMU 28/FTC-045B – Building 8000, SWMU 29/FTC-045A – Building 8030, and SWMU 30/FTC-045C – Building 8142. The shop at Building 8000 (SWMU 28) is the only Battery Acid Neutralization Shop currently operating at Fort Carson and is being addressed under OMA. Electrolytes from batteries were discharged into a floor drain. The drain leads to a holding/neutralization tank where the electrolyte was neutralized with sodium bicarbonate before being discharged to the sewer system. Precipitated metals and undissolved sodium bicarbonate are containerized and delivered to DRMO. In 1993, discharge of the battery electrolytes to the floor drains was discontinued. Present operations include storage and charging of batteries.

One soil sample was taken when a line was repaired containing lead above the TCLP regulatory levels (CDPHE RCRA Facility Assessment 1995). The soil samples collected in 1999 contained inorganics above background but below regulatory levels. Chlorinated VOCs were detected at concentrations above groundwater standards in one well, but are not related to this site.

In 2001, the RFI report (for all three SWMUs) was submitted to CDPHE (Earth Tech 2001) and was approved by CDPHE in 2002.

STATUS

OMA

RRSE RATING: Low

CONTAMINANTS:

Metals

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

RFA, RFI/CMS

CURRENT IRP PHASE:

NFA

FUTURE IRP PHASE:

RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

The Building 8000 additional groundwater work will have monitoring wells installed near this site.

PROPOSED PLAN

Perform a risk evaluation for soil only, since groundwater was not encountered at this site. Prepare NFA request with risk evaluation.

SWMU 30 (FTC-045C)
BATTERY ACID NEUTRALIZATION BLDG 8142

SITE DESCRIPTION

A total of three Battery Shops exist as SWMUs at Fort Carson: SWMU 28/FTC-045B – Building 8000, SWMU 29/FTC-045A – Building 8030, and SWMU 30/FTC-045C – Building 8142.

The shop operated from 1978 to August 1990. Electrolytes from batteries were discharged into a floor drain. The drain leads to a holding/neutralization tank where the electrolyte was neutralized with sodium bicarbonate before being discharged to the sewer system. In 1993, the area around the floor drain was excavated to repair the drain. However it was not possible to repair the drain, and the floor drain was permanently sealed with concrete and the piping was removed. Present operations include storage of batteries.

The soil samples collected in 1999 contained inorganics above background but below regulatory levels. Some organic compounds were also detected in soil samples at low concentrations. Chlorinated VOCs were detected at concentrations below groundwater standards in the wells.

In 2001, the RFI report (for all three SWMUs) was submitted to CDPHE (Earth Tech 2001) and was approved by CDPHE in 2002.

STATUS

ER,A

RRSE RATING: Low

CONTAMINANTS:
Metals

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
RFA, RFI/CMS

CURRENT IRP PHASE:
NFA

FUTURE IRP PHASE:
RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

Prepare a NFA request with risk evaluation for soil and groundwater.

SWMU 31 (FTC-048) DEMOLITION AREA

SITE DESCRIPTION

Parallel trenches were reportedly used to dispose of UXO in an ~2.5 acre area located west of Landfill 2/3. The area was reportedly operated prior to 1955 until approximately 1967.

Evidence of UXO disposal was not found during sampling at the reported location. Groundwater was not encountered during sampling. Inorganics and metals in soil were detected at levels below background.

The city of Fountain placed a water line through a portion of the investigated site and encountered no evidence of explosives.

A Final RFI report was submitted in November 2001 and was approved by CDPHE in January of 2002.

A follow-up review of aerial photo features did not suggest demolition activities at a nearby site.

Submitted a letter to CDPHE in 2003summarizing recent review activities including aerial photo analysis, interviews with site personnel, and site reconnaissance to support NFA request submitted to CDPHE in March 2002.

The RCRA Part B permit has been modified to indicate that no further action at this site is required.

STATUS

ER,A - OMA

RRSE RATING: Low

CONTAMINANTS:

Metals

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

RFA, RFI

CURRENT IRP PHASE:

RC

FUTURE IRP PHASE:

RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

None.

SWMU 32 (FTC-036)
GOLF COURSE HOLDING POND

SITE DESCRIPTION

This pond, which doubles as a water hazard between the sixth and eighth fairways on the golf course, is a holding area for treated effluent from the Sewage Treatment Plant (FTC-042), and permitted as an outfall under NPDES permit # CO-0021181, EPA Region VIII. Fort Carson uses the effluent for irrigation and as a reserve for fire fighting at the clubhouse. The pond has been in operation since 1972.

Wells in the vicinity of the golf course have been included in the Quarterly Groundwater Monitoring program. Samples from these wells contain low levels of metals.

PROPOSED PLAN

Prepare RFI report using existing effluent and groundwater data.

Prepare NFA request with Risk Evaluation for soil and groundwater.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS:

Metals

MEDIA OF CONCERN:

Soil, Surface Water

IRP STATUS:

Response Complete (OMA site)

COMPLETED PHASE: RFA

CURRENT PHASE: RFI/CMS

FUTURE PHASE: RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

SWMU 33 (FTC-034)
GOLF COURSE SEWAGE SPREADING AREA

SITE DESCRIPTION

During the construction of the course in 1972, sludges from the Sewage Treatment Plant were mixed with soils to construct the fairways and greens. Effluent from the Wastewater Treatment Plant (SWMU 22, FTC-042) is pumped through a permanent line to the golf course pond (SWMU 32/FTC-036), where it is used to irrigate the 200-acre course. This practice has been approved in the NPDES Permit #CO-0021181, EPA Region VIII).

Wells in the vicinity of the golf course have been included in the Quarterly Groundwater Monitoring Program. Samples from these wells contain low levels of metals.

PROPOSED PLAN

Prepare RFI report using existing effluent, sludge and groundwater data.

Prepare NFA request with Risk Evaluation for soil and groundwater.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS:

Metals

MEDIA OF CONCERN:

Soil, Groundwater

IRP STATUS:

Response complete (OMA site)

COMPLETED PHASE: RFA

CURRENT PHASE: RFI/CMS

FUTURE PHASE: RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

SWMU 34 (FTC-032)
VEHICLE WASH RACK STORM DRAINAGES

SITE DESCRIPTION

This site is also known as the Vehicle Wash Rack Storm Drainages in the Part B Permit. Vehicle wash rack wastewater from the three former motor pools located at the intersection of Titus Blvd. and Specker Avenue, was discharged to the sanitary sewer system. Storm water from these former motor pools discharged into drainage ditches along Frontage Rd and ultimately into Clover Ditch.

Sampling conducted to date has not indicated any contaminants of concern over action levels although low levels of petroleum hydrocarbons were detected.

The former motor pools have been demolished and the sites are currently utilized as storage areas.

Organics detected in well VWRMW3 will be addressed under Bldg 2940 (FTC-023/SWMU 75).
The RFI was approved in 2002.

PROPOSED PLAN

Submit a risk evaluation and NFA request (funded in FY02).

STATUS

ER,A

RRSE RATING: Low

CONTAMINANTS:
Metals, POL

MEDIA OF CONCERN:
Soil, Sediment

COMPLETED IRP PHASE:
RFA, RFI/CMS

CURRENT IRP PHASE:
NFA

FUTURE IRP PHASE:
RC

Human Exposure: No
Groundwater Impacted: No
FTC Site Priority: Low

SWMU 35 (FTC-074)
NEW CENTRAL WASH RACK

SITE DESCRIPTION

The New Central Wash Rack is located in the southeast corner of the Cantonment Area. It was constructed in 1989 and has been operating since then. Pressurized water removes exterior dirt in the "Bird Bath" units, and the washwater is collected in two sedimentation basins where soil and debris are allowed to settle out. The site is self-contained and the water is recycled back into the operation. Dried sediment is tested and disposed off-site. There is no evidence of a release to the environment.

The completion of investigation activities at this site is a Supplemental Environmental Program (SEP) from the 1997 Order on Consent.

In 2001, a No Further Action Request was submitted to CDPHE (Earth Tech 2001). In 2002, two sediment samples were collected and analyzed for SVOCs to address CDPHE comments.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS: POL

MEDIA OF CONCERN:

Soil, Surface Water, Groundwater

IRP STATUS:

Response Complete (OMA site)

COMPLETED PHASE:

RFA

CURRENT PHASE: RFI/CMS

FUTURE PHASE: RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

Perform baseline RFI and submit RFI for this active facility.

Document that current procedures are adequate in closed system.

Perform risk evaluation.

SWMU 36 (FTC-075)
OLD CENTRAL WASH RACK

SITE DESCRIPTION

The Old Central Wash Rack (SWMU 36) is located just south of the New Central Wash Rack (FTC-074) along Clover Ditch. The site was operated from approximately 1980 to 1989. It discharged wastewater to the Industrial Wastewater Treatment Facility. The wash rack equipment was removed and the sumps were filled with concrete when the New Central Wash Rack was constructed in 1989.

Two temporary wells were installed during the voluntary investigation, and metals were detected at concentrations below regulatory standards.

This site has been identified as a Supplemental Environmental Project (SEP) under the 1997 Order on Consent. This site is located upgradient of the Piney Creek alluvial aquifer, which drains into the Fountain Aquifer. The Fountain Aquifer is one of the three main drinking sources in the area.

A RFI workplan was submitted in 1996.

The RFI was submitted in February 2004.

CDPHE comments required completion of proposed investigative work from 1996 workplan.

STATUS

ER,A

RRSE RATING: Low

CONTAMINANTS:
Metals

MEDIA OF CONCERN:
Soil, Surface Water

COMPLETED IRP PHASE:
RFA

CURRENT IRP PHASE:
RFI/CMS

FUTURE IRP PHASE:
RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

Submit a RFI workplan. Submit RFI.

Submit NFA.

SWMU 45 (FTC-017)
RANGE 1, OPEN BURN GROUNDS

SITE DESCRIPTION

The Open Burn Grounds at Range 1 consisted of two crossing trenches, 100 feet long and 1 to 2 feet deep and a concrete pad. The site is located near the intersection of Butts Road and Speck Avenue. Excess propellant was burned at this location from 1963 to 1996. In December 1994, a concrete basin was installed to replace the earthen trenches. In October 1996, Fort Carson began use of the new concrete basin, allowing SWMU 45 to become inactive.

In 1985, a team from the U.S. Army Environmental Hygiene Agency took 22 surface and subsurface soil samples. Explosives were detected in the surface soil, but not in the subsurface soil. Groundwater samples collected between 1985 and 1997 did not detect explosive compounds except for one well in 1988.

Explosive compounds were not detected in soil or groundwater during an investigation in 1999, however, inorganics (primarily nitrate) were detected above groundwater standards. Results of the 1999 investigation were reported in an RFI report (May 1999).

In 2001, the contents of the concrete basin were removed (water and sand), and in April 2002, additional wells were installed to address CDPHE comments to the RFI report. Elevated levels of nitrates were detected above MCLs in the groundwater. In May 2002, the concrete basin was demolished and soil samples were collected. Low concentrations of nitrates and one detection of PETN (explosive compound) were detected in the soil samples.

In 2004, additional field activities include collecting additional samples beneath the former concrete basin and installing both upgradient and downgradient groundwater monitoring wells.

STATUS

ER,A

RRSE RATING: Medium

CONTAMINANTS:
Explosives, Inorganics

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
RFA

CURRENT IRP PHASE:
RFI/CMS

FUTURE IRP PHASE:
DES, CMI, CMI(O), LTM

Human Exposure: No

Groundwater Impacted: Yes

Site Priority: Medium

PROPOSED PLAN

Evaluate field data and determine course of action for addressing excessive nitrates.

Finalize RFI report and perform risk evaluation.

Continue annual groundwater monitoring.

SWMU 46 (FTC-018)
RANGE 1A, OPEN BURN GROUNDS

SITE DESCRIPTION

The Abandoned Open Burn Grounds at Range 1A include two intersecting trenches near the intersection of Routes 9 and 11. The trenches measure ~150 feet long and ~1 foot deep. From 1963 to 1987, the units training near this area burned unused propellant in these trenches.

The exposure potential from this site is moderate because of its proximity (~500 meters) to a flowing stream. There has been no evidence of contaminant release.

In 1985, a team from the U.S. Army Environmental Hygiene Agency took 29 surface soil samples. They found unburned explosive pellets, however, explosive compounds were not detected in the soil samples.

In 1994 and 1995, Fort Carson collected additional samples from the abandoned trenches and surrounding area as part of the Group B sites (Range 1A, Range 121, Range 123, and Demolition Area) and reported in the Draft Final RFI Report for Group B Sites in September 1999. No explosive or propellant compounds were detected. However, additional soil samples collected in 1997 indicated an isolated detection of explosive compounds. No groundwater was encountered during site investigations.

STATUS

ER,A

RRSE RATING: Low

CONTAMINANTS:
Explosives, Propellants

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
RFA, RFI/CMS

CURRENT IRP PHASE:
NFA

FUTURE IRP PHASE:
RC

Human Exposure: No
Groundwater Impacted: No
Site Priority: Low

In 2001, the trench and nearby surface propellant pellets were excavated and disposed. No explosive related components were detected in the confirmation samples. The revised RFI report was submitted in March 2002 and approved by the CDPHE.

PROPOSED PLAN

Submit NFA request to CDPHE.

SWMU 47 (FTC-019)
RANGE 121, OPEN DETONATION GROUNDS

SITE DESCRIPTION

Range 121 consists of two separate sites: Open Detonation Grounds (FTC-019/SWMU 47) and Open Dumping Area (FTC-040/SWMU 25). The Open Dumping Area is located approximately 0.25 mile south of the Open Detonation Area along the Young Hollow drainage.

The Open Detonation Area (FTC-019) is a ~4-acre site and has been operational since 1963 as the Open Detonation Facility for 764th Ordnance Company. Ordnance including CS (riot control agent) grenades, white phosphorous (WP) in projectile rounds, pyrotechnics, flares, and smokes are destroyed at this range.

Investigations at the site were initiated in 1994 as part of the Group B sites (Range 1A, Range 121, Range 123 and Demolition Area) and reported in the Draft Final RFI Report for Group B Sites in September 1999. Results of soil and groundwater sampling detected inorganics at concentrations above interim background levels. Isolated concentrations of explosives were detected in soil and groundwater.

Additional field activities were conducted in 2001 to remove surficial debris and collect surface soil samples. Results of soil sampling detected inorganics at concentrations above interim background levels and explosives.

Fort Carson Range Control implemented erosion control measures in and around Young Hollow drainage in 2002.

STATUS

OMA

RRSE RATING: High

CONTAMINANTS: Metals, Explosives

MEDIA OF CONCERN: Soil

IRP STATUS:

RFI/CMS (OMA site)

COMPLETED PHASE:

RFA

CURRENT PHASE:

NONE

FUTURE PHASE:

RFI/CMS

Human Exposure: Unknown

Groundwater Impacted: Unknown

Site Priority: Low

PROPOSED PLAN

RFI activities are suspended until site is no longer an active range. In the interim, two downgradient wells will be sampled quarterly for two years beginning in 2003, then annually until the site becomes inactive to monitor for potential off-site migration of explosives and nitrates.

This site will be closed in accordance with interim status unit requirements.

The RCRA closure process will adequately cover RFI activities.

SWMU 48 (FTC-027)
RANGE 123, OPEN BURN GROUNDS

SITE DESCRIPTION

This site was a RCRA Interium Status Unit used to burn practice bombs containing white phosphorous. The site consisted of a burn pit as well as a crated scrap area that was reportedly used to store material removed from the burn pit for subsequent handling and disposal. The pit has been documented as either two trenches approximately 50 x 12 x 5 ft or one large trench approximately 60 x 20 x 8 ft. Reported burning activities included either placing the practice bombs into trenches and using diesel fuel and dunnage to initiate the burns, or placing a 4-foot layer of wood in the bottom of the hole, covering it with practice bombs, and initiating the burn with 50 gallons of diesel fuel. Ash and residue from the trenches was transferred to Range 121 (FTC-040). Some practice bombs are still on-site.

Investigations at the site were initiated in1994 as part of the Group B sites (Range 1A, Range 121, Range 123 and Demolition Area) and reported in the Draft Final RFI Report for Group B Sites in September 1999. No groundwater was encountered for sampling.

Test pits in 2001 encountered general construction debris, including styrofoam, plastic, foil, scrap metal, concrete and wire mesh, as well as Mark 106 and 76 practice bombs.

Submitted RFI in 2003, which was approved by CDPHE with no CMS imposed.

Submitted letter work plan for “intended remedy”, which includes removal of BDUs and scrap metal.

STATUS

OMA

RRSE RATING: Low

CONTAMINANTS:

Metals

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

RFA, RFI/CMS

CURRENT IRP PHASE:

NFA

FUTURE IRP PHASE:

RC

Human Exposure: No

Groundwater Impacted: No

Site Priority: Low

PROPOSED PLAN

The burn pits will be excavated in summer 2004.

Request a NFA with risk evaluation for soil.

SWMU 49 (FTC-025)
HAZ WASTE & PCB STOR FAC, BLDG 9248

SITE DESCRIPTION

The Hazardous Waste and PCB Storage Facility, Building 9248 (SWMU 49), is Fort Carson's permitted Hazardous Waste Storage Facility. This site is a 60 x 30 foot bunker, secured, and meets all the requirements for RCRA storage. An annual inspection of this facility is conducted by the state of Colorado. This site is subject to RCRA Closure. There is no evidence of past releases to the environment, and waste management activities are conducted in accordance with hazardous waste management regulations.

PROPOSED PLAN

Prepare a closure plan in accordance with RCRA post-closure/closure requirements for permitted storage facilities.

RCRA closure activities will adequately cover RFI.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS:

All hazardous waste as listed in the RCRA Part B Permit

MEDIA OF CONCERN:

Soil, Surface Water

IRP STATUS:

Response Complete (OMA site)

COMPLETED PHASE: PA/SI

CURRENT PHASE: None

FUTURE PHASE: RFI/CMS

Human Exposure: No

Groundwater Impacted: No

Site Priority: Low

SWMU 50 (FTC-024)
DRMO, INACTIVE HAZ WASTE STOR AREA

SITE DESCRIPTION

This site is also known as the Defense Reutilization and Marketing Office (DRMO), Inactive Hazardous Waste Storage Area in the Part B Permit. This storage area is located in the Cantonment Area in the vicinity of newly constructed Building 320 and operated from 1958 to 1983. Activities here included open area storage of hazardous waste products including: epoxies, hydraulic fluids, dried paint wastes, asbestos, PCBs and flammables. Two, 30 x 20 feet protective shelters were used as the storage facility. The site covers ~1 acre and is located north of Landfill 4 (FTC-008).

There are four groundwater monitoring wells surrounding this site. These wells were installed to monitor the impacts of the groundwater as the result of Landfill 4 operations. There have been no contaminants detected in the groundwater that can be associated with this site. Low levels (below regulatory levels) of PCB have been detected in shallow soils at the north end of this site.

In June 2001, the RFI report was approved by CDPHE.

STATUS

ER,A

RRSE RATING: Low

CONTAMINANTS:

PCBs

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

RFA, RFI/CMS

CURRENT IRP PHASE:

NFA

FUTURE IRP PHASE:

RC

Human Exposure: No

Groundwater Impacted: No

Site Priority: Low

PROPOSED PLAN

Continue monitoring two wells for VOCs at Landfill 4.

Prepare a risk evaluation and NFA request (funded in FY02).

SWMU 51 (FTC-043)
DIO HAZARDOUS WASTE STORAGE AREA

SITE DESCRIPTION

This site is also known as the DIO Hazardous Waste Storage Area in the Part B Permit. The Directorate of Industrial Operations (DIO) site included three, 8 x10 foot concrete metals sheds with concrete floors located in the yard east of Bldg 301. Stoddard Type II waste solvents were stored in 55 gallon drums inside the sheds from 1951 to 1981. The buildings have been removed. The concrete pads were removed in 1999 along with a small amount of hydrocarbon contaminated soil.

Additional soil samples were collected beneath and around the removed pad. Low levels of POL were detected in the surface soil samples and are likely associated with the asphalt.

Two temporary wells were installed during the RFI and low levels of VOCs and metals were detected. The site has been identified as a Supplemental Environmental Project (SEP) under the 1997 Order on Consent.

The RFI report was approved by CDPHE in Dec 2001.

STATUS

ER,A

RRSE RATING: Low

CONTAMINANTS:

POL

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

RFA, RFI/CMS

CURRENT IRP PHASE:

NFA

FUTURE IRP PHASE:

RC

Human Exposure: No

Groundwater Impacted: No

Site Priority: Low

PROPOSED PLAN

Prepare a risk evaluation and NFA request (funded in FY03).

SWMU 52 (FTC-080)
HAPPY HOLLOW 90-DAY HAZ. WASTE STORAGE AREA

SITE DESCRIPTION

This site is also known as the Happy Hollow 90-Day Haz Waste Storage Area in the Part B Permit. The Happy Hollow 90-Day Hazardous Waste Storage Consolidation Area (SWMU 52) is Fort Carson's 90-day storage area identified in the RFA (SAIC 1994). This site was not a permitted storage facility. The RFA indicated possible releases to the environment.

PROPOSED PLAN

Subject to RCRA closure.

Prepare an RFI Work Plan and perform RFI investigation, when facility is no longer operating.

RFI activities will likely co-incide with SWMU-49 closure/post-closure activities.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS: Unknown

MEDIA OF CONCERN:
Soil, Groundwater

IRP STATUS:
Response Complete (OMA site)

COMPLETED PHASE:
RFA

CURRENT PHASE:
None

FUTURE PHASE: RFI/CMS

Human Exposure: Unknown

Groundwater Impacted: Unknown

Site Priority: Low

SWMU 53 (FTC-033)
FMR WASTE OIL/SOLV USTs, BLDG 8000

SITE DESCRIPTION

From 1973 to 1984, Fort Carson stored used oil and solvents generated at the maintenance facility prior to disposal. This site consisted of two 25,600-gallon tanks and associated piping from Building 8000. The tanks were removed in June of 1991, but the piping was left in place. A pump-and-treat system was installed in 1993 and then turned off in 1998 since it was unsuccessful in reducing contaminant concentrations.

Investigations around the tank pit between 1990 and 1993 identified petroleum hydrocarbons and chlorinated VOCs. This site was identified in the 1987 Compliance Order. In February 1997, soil samples were collected from within the tank pit and were found to contain chlorinated VOCs (including TCE). Sampling in 1998 found hydrocarbon and chlorinated VOCs contamination in the tank pit and at the northern and southern manholes associated with the piping. TCE has been found above groundwater standards in the immediate vicinity of the tank pit and northern and southern manholes. The RFI Report was submitted to CDPHE in 2000.

In 2001, the fluids remaining in the manholes were removed, the manholes were decontaminated, and the piping was plugged inside Building 8000. In addition, free product recovery commenced as an IRA, and additional investigation upgradient of the northern manholes was performed to determine the source of chlorinated solvent detections in soil/bedrock.

Groundwater for the neighboring SWMUs located at the Bldg 8000 Complex will be addressed under this SWMU, including the Former Long-Term Hazardous Waste Storage Area (FTC-041/SWMU 54), the Former Vapor Degreaser (FTC-058/SWMU 16) and the Battery Neutralization Shop, Building 8000 (FTC-045B/SWMU 28).

The RFI workplan was submitted in February 2004.

STATUS

ER,A

RRSE RATING: High

CONTAMINANTS:
VOCs, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
RFA, 2 IRAs

CURRENT IRP PHASE:
RFI/CMS, IRA

FUTURE IRP PHASE:
RFI/CMS, IRA, DES, CMI, CMI(O), LTM

Human Exposure: No

Groundwater Impacted: Yes

Site Priority: High

PROPOSED PLAN

Continue product removal (IRA) and annual groundwater monitoring.

Perform additional RFI activities to define hydrogeologic conditions and groundwater contamination for the entire Building 8000 complex.

Prepare a CMS for remedial alternatives. Anticipate in situ reductive dechlorination for soil and groundwater around the northern and southern manholes and former tank pit, as well as a downgradient wall for the groundwater exiting the Building 8000 complex.

SWMU 54 (FTC-041)
FMR LONG-TERM HAZ WASTE STORAGE AREA, 8000

SITE DESCRIPTION

This site is an open 50 square-foot concrete pad located in the northwest corner of the Building 8000 complex (the Consolidated Field Maintenance Shop). The pad has a central drain connected to the storm water line that emptied to B Ditch. The site reportedly was used for storage of various waste material including hydraulic fluid, transmission fluid, oil filters, paint, motor gasoline, and diesel fuel. Since 1986, the area has been used for storage of non-hazardous materials such as maintenance equipment, spare parts, and empty containers. Current site conditions indicate that the concrete pad is associated with parking and storage for the Building 8000 complex.

Trace amounts of organic compounds were detected in both soil and groundwater samples. Elevated concentrations of lead in soil samples and selemium in groundwater samples.

Site reconnaissance and interviews with facility personnel have determined that no structures or additional concrete pad(s) were constructed at the site and conditions have not been altered since the area was originally used. Historical research was conducted in 1995 in preparation for an RFI Work Plan (1996).

The RFI investigation was conducted in August 2003.

The RFI was submitted in March 2004.

STATUS

ER,A

RRSE RATING: Low

CONTAMINANTS:

VOCs, SVOCs, Metals (as specified by the RCRA Part B Permit)

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE: RFA

CURRENT IRP PHASE: RFI/CMS

FUTURE IRP PHASE: RC

Human Exposure: Unknown

Groundwater Impacted: Unknown

Site Priority: Medium

PROPOSED PLAN

Prepare a risk evaluation and submit NFA request to CDPHE.

SWMU 55-111 (FTC-023)
FORMER USED/WASTE OIL STORAGE TANKS

SITE DESCRIPTION

This FTC # consists of 57 used oil storage tank sites (SWMU 55-111). All the tanks have been removed. Soil confirmation samples, taken prior to removal, were only analyzed for BTEX and total hydrocarbons. Thirteen of these sites were recommended to CDPHE for no further action, since the tanks were actually small ASTs that cannot be located.

The RI was conducted in 2 phases, one for 11 sites and one for 33 sites. A Phase I RFI is being completed at the 44 sites. Elevated levels of hydrocarbon, chlorinated VOCs, and PAHs were detected. Additional Phase I RFI activities were completed at the following tank sites: Buildings 2427, 2735, 2840, 9603, and 9620 in May 2000. In 2001, the 11 Site RFI was submitted to CDPHE and additional field activities were conducted to address comments. In 2002, CDPHE requested that RFI reports for all 44 sites be submitted independently.

To date, 14 RFIs have been submitted.

NFA at 13 former AST sites has been approved and were implemented into the Part B Permit in October 2003.

STATUS

ER,A

RRSE RATING: Medium

CONTAMINANTS:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PSA

CURRENT IRP PHASE:
RFI

FUTURE IRP PHASE:
RFI/CMS, DES, CMI, CMI(O)

Human Exposure: No
Groundwater Impacted: Yes
Site Priority: Medium

SITE BREAKDOWN

RFI reports submitted: 14 = 218, 301, 635, 749, 1302, 1382, 1882, 1982, 2792, 2992, 3092, 3192, 9072 and 9228. Buildings 8300 and 2427 require supplemental workplan.

Additional RFI investigation activities: 301, 1302, 9609, 1882, 1982, 2082, 2735, 2840, 9072, 1692, 2792, 2940, 8152. Additional RFI activities on washrack only: 2492, 2992, 3092, 3192, 3292, 1392 and 1382.

Proposed NFA or closure through risk assessment: 1515, 8110, 8200, 2239, 3874, 8142, 8930, 9628, 1404, MPRC, 9628, 639, 635, 218, 2692, and 1682.

Active Oil/Water separators (addressed under OMA in the near future, with an RFI that includes BMPs for the operation): 9603, 9606, and 749.

DPW washrack upgrades: 1682, 1692, 2392, 2492, 2692, 2792, 2992, and 3092.

PROPOSED PLAN

Submit remaining RFI reports for all sites, preceded by letter workplan. Conduct additional field investigations as necessary. Perform risk assessments for all sites. (Funded in FY04.)

Perform CMS at approximately nine sites.

Perform Corrective Actions at sites to include in-situ remediation and excavations, and monitor as necessary.

SWMU 163 (FTC-076)
FORT CARSON SEWER SYSTEM

SITE DESCRIPTION

This site is in the Part B Permit. The site consists of all the pipes associated with the Industrial Wastewater Treatment System that transmit industrial wastewater to the Industrial Wastewater Treatment Facility (FTC-031/SWMU 21). New mains were installed in 1980 and existing lines dating back to 1950 were tied into the system. In 1997, ~5 miles of piping were video surveyed. Based on this survey, ~30 locations have been identified as potential release points due to structural damage to the lines.
In 2002, additional line surveying and sampling outside the lines were performed. Results indicate only three potential release points.

Submitted RFI report in April 2004.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS:
Metals, SVOCs, VOCs

MEDIA OF CONCERN: Soil

IRP STATUS:
Response Complete (OMA site)

COMPLETED PHASE: RFA

CURRENT PHASE:
RFI/CMS

FUTURE PHASE:
RFI/CMS, LTM

Human Exposure: No
Groundwater Impacted: No
FTC Site Priority: Low

PROPOSED PLAN

Replace/repair industrial lines to be completed by DPW.

Address any areas of contamination as needed.

Document that sewer system and wastewater lines now follow best management practices and would not be considered a threat to the environment.

Submit RFI Addendum to address three release points (include summary of DPW activities).

SWMU 164 (FTC-070)
UST NEAR BLDG 202

SITE DESCRIPTION

This site was used by the Paint Shop. A tank was installed to hold paintbrush-cleaning chemicals. The tank was removed in 1994. The building was removed in the late 1990s. This site is now part of a vehicle parking lot.

Contents of the UST were determined to be POL products prior to removal. The excavation of contaminated soil was stopped after a chlorinated solvent was detected in one sample. Sampling in 1996-97 did not encounter chlorinated solvents in soil or groundwater and POL concentrations were below regulatory limits. Bis(2-ethylhexyl) phthalate has been detected above Colorado groundwater standards.

The RFI Report was submitted to CDPHE in January 2003. Additional groundwater wells will be installed on the installation boundary to assess potential contaminants in groundwater.

STATUS

ER,A

RRSE RATING: Low

CONTAMINANTS:

POL, VOCs

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

RFA

CURRENT IRP PHASE:

RFI/CMS

FUTURE IRP PHASE:

RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

Submit letter workplan for installation of additional groundwater wells.

Respond to CDPHE comments and finalize RFI report.

Submit a risk evaluation and NFA request.

SWMU 165 (FTC-077)
FORMER LIME PIT SITE IN BLDG 8110

SITE DESCRIPTION

This site is located at the Colorado National Guard maintenance facility at Fort Carson. Prior to 1981, used battery acid generated from vehicle maintenance operations was neutralized in a lime pit located in a battery room attached to Building 8110 and was then discharged to the IWTP. This practice was discontinued in1986. The construction and dimension of the lime pit is unknown; however, the pit is fully enclosed. Wastewater from a nearby sink still discharges through the pit en route to the IWTP.

Low concentrations of petroleum-related compounds were detected in the soil surrounding the battery room; groundwater was not encountered. Following initial subsurface investigations at this site, the CDPHE requested additional soil samples below the lime pit.

Current and future site investigations will be performed and funded by the Colorado Army National Guard. Therefore, it is assumed that Fort Carson will only be responsible for funding the risk assessment required to close the site in the Part B Permit.

RFI submitted and approved in March 2004.
CMS not imposed.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS: Metals

MEDIA OF CONCERN: Soil

IRP STATUS:

Response Complete (OMA site)

COMPLETED PHASE:

RFA, RFI/CMS

CURRENT PHASE:

NFA

FUTURE PHASE:

RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

Perform a Risk Evaluation and submit a NFA request.

SWMU 166 (FTC-078)
WASH RACK SITE NORTH OF BLDG 8110

SITE DESCRIPTION

The concrete wash pad, located ~200 feet north of Building 8110, was operated between 1981 and 1996. Wash water was discharged through two drains in the concrete pad to a sand trap en route to the IWTP.

Subsurface investigations detected elevated levels of petroleum-related compounds in the soil beneath the pad, primarily in the vicinity of the sand trap where free-phase product was encountered. Groundwater was encountered at the site, but limited volume prevented sample collection. Following initial subsurface investigations, the CDPHE requested additional soil samples to further delineate the nature and extent of impacted soils.

Current and future site investigations will be performed and funded by the Colorado Army National Guard. Therefore, it is assumed that Fort Carson will only be responsible for funding the risk assessment required to close the site in the Part B Permit.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS: POL

MEDIA OF CONCERN: Soil

IRP STATUS:

Response Complete (OMA site)

COMPLETED PHASE:

RFA, RFI/CMS

CURRENT PHASE:

NFA

FUTURE PHASE:

RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

Perform a Risk Evaluation and submit a NFA request.

SWMU 167 (FTC-083)
NORTH SPECKER AVENUE PLUMES

SITE DESCRIPTION

This SWMU was identified following sampling conducted in conjunction with the UST removals at Building 749 (FTC-060) that detected PCE and TCE in groundwater. Additional investigations performed along North Specker Avenue between 1994 and 2002 located a source area and defined the nature and extent of contamination. Benzene, bis(2-ethylhexyl)phthalate, chloroform, 1,1-dichloroethene, ethylbenzene, tetrachloroethene (PCE), trichloroethene (TCE), methylene chloride, pentachlorophenol, and vinyl chloride have been detected in groundwater at concentrations exceeding Colorado Ground Water Standards. Four of the analytes (benzene, 1,1-dichloroethene, PCE, and TCE) have been detected consistently over the course of the investigation and have a wide spatial distribution. The VOC with the widest spatial distribution, PCE, forms a plume that averages approximately 450 feet wide and 3,900 feet long. The source of the plume begins in the vicinity of Buildings 633 through 636 and is attributed to several underground utilities and former in-line sand and grease traps that traverse the area.

The NFA approval for the USTs at Bldg 749 (FTC-060, an ops site) was contingent on this plume being remediated.

In 2001, a pilot SVE/AS system was installed in the source area as an interim remedial action, and four abandoned sand and grease traps with impacted soils were removed from the source area. The Draft Final RFI Report was submitted to CDPHE in September 2002.

Initial indoor air assessments were performed in 2003. Air sampling results were submitted to CDPHE in January 2004. The second round of indoor air sampling was conducted in May 2004.

The RFI has been submitted and conditionally approved.

Submitted CMS workplan in May 2004.

STATUS

ER,A

RRSE RATING: High

CONTAMINANTS:
POL, PCE, TCE

MEDIA OF CONCERN:
Groundwater

COMPLETED IRP PHASE:
RFA

CURRENT IRP PHASE:
RFI/CMS

FUTURE IRP PHASE:
CMI(O), CMI (C), LTM

Human Exposure: Unknown

Groundwater Impacted: Yes

FTC Site Priority: High

PROPOSED PLAN

Finalize RFI with indoor air data (submit addendum).

Continue IRA of SVE/AS system at the source area, and annual groundwater monitoring to track plume migration.

Prepare CMS, which is expected to recommend the installation of a downgradient reductive dechlorination treatment line.

SWMU 168 (FTC-093)
FORMER POW CAMP

SITE DESCRIPTION

The Former Prisoner of War Camp area was not identified by Fort Carson or CDPHE as an area of environmental concern and was not included in the initial Part B Permit. The site was discovered during construction activities in 2000. In late July 2000, construction activities uncovered an orange-red substance from the underlying soil near the intersection of Mabry Court and Funk Avenue on the west side. These soils were located on the edge of what had at one time been a prisoner of war camp.

Analysis of the stained soils detected pentachlorophenol. Due to the potential of delaying the contractor that was doing the utility installation, the decision was made to excavate the impacted soil (~75cy) with off-site disposal.

Following excavation, confirmatory samples detected low levels of PCP at the bottom of the excavation (greater than 20 ft bgs). Soil was excavated to bedrock. Groundwater was not encountered during excavation activities. The site was backfilled and a road was built over the site.

A Draft Final RFI report was submitted to CDPHE in Jan 2002. Based on comments, additional investigation is required.

A letter workplan has been submitted and approved.

STATUS

ER,A

RRSE RATING: Low

CONTAMINANTS:

PCP

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

RFA

CURRENT IRP PHASE:

RFI/CMS

FUTURE IRP PHASE:

RC

Human Exposure: No

Groundwater Impacted: No

FTC Site Priority: Low

PROPOSED PLAN

The additional investigation is planned for June 2004 to include installation of five borings, collection of soil samples, and analysis including VOCs, SVOCs, metals, and dioxins/furans.

Finalize RFI report and submit a risk assessment to CDPHE (funded in FY02). NFA is expected.

SWMU 169 (FTC-088)
BUILDING 1211

SITE DESCRIPTION

Former Building 1211 served as a pump house for a fueling station, which consisted of one 12,000 gallon diesel UST, one 12,000 gallon solvent UST, eight diesel fuel dispensing pumps, and one solvent dispensing pump. It is not known if the USTs originally contained gasoline, which was subsequently replaced with diesel fuel and solvent at a later date, or if the USTs have contained diesel fuel and solvent since installation.

The investigation of former Building 1211 was initiated based on results of an RFI conducted at nearby Landfill 6 (FTC-010/SWMU 6). The Landfill 6 RFI concluded that the origin of organic compounds in the groundwater and petroleum hydrocarbon compounds in soil collected from monitoring well LF6MW8, located crossgradient of the landfill near the location of former Building 1211, may be associated with former fueling station activities.

Four separate investigations were performed between October 1999 and October 2000 to determine whether the former Building 1211 area is the source of constituents detected in monitoring well LF6MW8. Subsurface investigations confirmed that soil and groundwater impacts initially detected in LF6MW8 are associated with the former Building 1211 fueling facility. Consistent concentrations of cis-1,2-dichloroethene and vinyl chloride have been detected in groundwater. Free-phase product (LNAPL) was encountered in the former tank pit.

Based on the results of the investigations, a Newly Identified SWMU Report was submitted to CDPHE in April 2001 with an RFI Work Plan.

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS:

POL, VOCs

MEDIA OF CONCERN:

Groundwater, Soil

IRP STATUS:

Response Complete (OMA site)

COMPLETED PHASE: RFA

CURRENT PHASE: RFI/CMS

FUTURE PHASE:

DES, CMI(C), CMI(O), RC

Human Exposure: No

Groundwater Impacted: Yes

FTC Site Priority: High

PROPOSED PLAN

Re-sample wells, finalize RFI and submit to CDPHE in 2004.

Prepare a CMS for groundwater impacts.

Implement corrective measure (anticipate ORC injection) and perform annual groundwater monitoring.

Perform NFA and risk evaluation.

SWMU 170 (FTC-099)
CONSTRUCTION DEBRIS AREA-INACTIVE LANDFILL 1

SITE DESCRIPTION

Inactive Landfill 1 Construction Debris Landfill is located south of the Cantonment Area in the Landfill 1 Certificate of Designation. The landfill received Fort Carson construction debris as a canyon fill operation until 2002. The area of the landfill is estimated at 15 acres, and is located at the toe of Pete's Hill (FTC-026, SWMU 14). This site is part of the 2002 Compliance Order # 02-03-22-01.

The construction and debris landfill has recently been included as Part of the Combined Landfill Area (CLA).

Submitted Interim Closure Plan (ICP) for CLA.

Completed RFI activities and started ICP compliance monitoring.

Submitted RFI in June 2004.

PROPOSED PLAN

Submit CMS work plan for capping. Perform CMS.

Continue groundwater monitoring, soil gas, and engineering controls inspection for CLA.

Long term monitoring to include cover maintenance.

Design and install a 2-foot cover over the C/D area at closure (FTC-099).

STATUS

OMA

RRSE RATING: Not Applicable

CONTAMINANTS:

VOCs, Inorganics

MEDIA OF CONCERN:

Soil, Groundwater, Surface Water

IRP STATUS:

Response Complete (OMA site)

COMPLETED PHASE: RFA

CURRENT PHASE:

RFI/CMS

FUTURE PHASE:

RFI/CMS, DES, CMI(C), CMI(O), LTM

Human Exposure: No

Groundwater Impacted: Yes

FTC Site Priority: High

OTHER RESPONSE COMPLETE SITES LISTED IN AEDB-R

SWMU 10	FTC-014	Landfill 10
SWMU 12	FTC-016	Landfill 12
SWMU 49	FTC-025	H/W and PCB Storage Area (Active Site)
	FTC-028	Evans Army Hos Silver Recovery Unit
	FTC-029	Old Army Hospital Incinerator
	FTC-030	Waste Oil Burner Building 1860
	FTC-035	Old Hospital Silver Recovery Unit
	FTC-037	Photo Shop Silver Recovery Unit
	FTC-038	Vet Clinic Silver Recovery Unit
SWMU 22	FTC-042	Sewage Treatment Plant
	FTC-046	Vet Clinic Incinerator
SWMU 31	FTC-048	Demolition Area
	FTC-049	Commissary Incinerator
	FTC-050	Classified Document Incinerators
	FTC-051	Former UST Site, Bldg 9648
	FTC-052	Former UST Site, Bldg 1092
	FTC-053	Former UST Site, Bldg 7500
	FTC-054	Former UST Site, Bldg 8000
	FTC-055	Former UST Site, Bldg 981
	FTC-056	Former UST Site, Bldg 1382
SWMU 17	FTC-058	Jet Spray Washers, Building 8000
SWMU 21	FTC-059	Ind Wastewater Treat Plant Ponds (Active Site)
	FTC-060	Former UST Site, Bldg 749
	FTC-061	Former UST Site, Bldg 1392
	FTC-062	Former UST Site, Bldg 2392
	FTC-063	Former UST Site, Bldg 2494
	FTC-064	Former UST Site, Bldg 2692
	FTC-065	Former UST Site, Bldg 2792
	FTC-066	Former UST Site, Bldg 3192
	FTC-067	Former UST Site, Bldg 8200
	FTC-068	Former UST Site, Bldg 8300
	FTC-069	UST Site Pinon Canyon Maneuver Site
	FTC-071	Former UST Site, Bldg 1100 (ops site)
	FTC-072	Former UST Site, Bldg 700 (ops site)
SWMU 26	FTC-073	Equalization Basin, Bldg 1399 (Active)
SWMU 163	FTC-076	Industrial Waste Water System (Active)
SWMU 165	FTC-077	Battery Neutralization Pit, Bldg 8110
SWMU 166	FTC-078	Bldg 8110 Wash Rack
	FTC-081	Former UST Site, Bldg 638 (ops site)
	FTC-082	Former UST Site, Bldg 2992 (ops site)

PAST MILESTONES

In September 1995, Fort Carson was issued a RCRA Part B Permit. This required the submission of 85 RFI workplans within a 180 day period. The immediate milestone then became the completion of that task. It was accomplished within the allowed time frame.

During calendar year 1996, the primary focus was to conduct several RFI investigations. Included in this was the Grit Oil Pit, which was included in an Order on Consent that was issued to Fort Carson.

During calendar year 1996 and 1997, the primary milestones at Fort Carson were to obtain state approval for landfill caps at 3 locations, as well as, the removal plan for sludges at the Equalization Basin (an active site).

In May 1998, the sludges were removed from the Equalization Basin and the basin liner was decontaminated.

Between September 2000 and March 2001, Landfill 6 waste material was relocated.

In September 1999 and March 2000, a barrier cap, complete with an asphalt parking lot, was installed on the western 5 acres of Landfill 5, adjacent to Building 8930 (Motor Pool).

Between February 2000 and September 2000, an evapotranspiration cap was placed over the eastern 15 acres of Landfill 5.

Between September 1999 and December 1999, a drainage channel was constructed down the municipal portion of Landfill 1 to replace a degraded culvert.

In 1998, a temporary cover was installed as an interim surface water control measure at the Grit/Oil Pit.

In 2002, no further action was granted by the CDPHE for Landfill 10 (SWMU 10/FTC-014), Landfill 12 (SWMU 12/FTC-016), and the Jet Spray Washers (SWMU 17/FTC-058).

In 2003, no further action was granted by CDPME for 16 ASTs (FTC-023) and Demo Area (FTC-048).

NO FURTHER ACTION SITES

The following sites require no further action under the IRP (as listed in AEDB-R).

SWMU 1	FTC-005	Landfill 1
SWMU 6	FTC-010	Landfill 6 (1942-1946)
SWMU 10	FTC-014	Landfill 10
SWMU 12	FTC-016	Landfill 12
SWMU 16	FTC-076	Industrial Waste Water System
SWMU 21	FTC-031	Industrial Waste Water Plant (Active)
SWMU 22	FTC-042	Sewage Treatment Plant (Active)
SWMU 28	FTC-045A	Battery Acid Neutralization Bldg 8030
SWMU 32	FTC-036	Golf Course Sewage Holding Lagoon
SWMU 33	FTC-034	Golf Course Spreading Area
SWMU 47	FTC-019	Range 121, OD Grounds, Active Site
SWMU 48	FTC-027	Open Burn Grounds, Range 123
SWMU 169	FTC-088	Building 1211
SWMU 49	FTC-025	H/W and PCB Storage Area (Active Site)
SWMU 44	FTC-028	Evans Army Hos Silver Recovery Unit, Bldg. 6001
	FTC-029	Old Army Hospital Incinerator
SWMU 20	FTC-030	Waste Oil Burner Building 1860
SWMU 43	FTC-035	Old Hospital Silver Recovery Unit, Bldg. 6001
SWMU 42	FTC-037	Photo Shop Silver Recovery Unit, Bldg. 6270
SWMU 41	FTC-038	Vet Clinic Silver Recovery Unit, Bldg 6001

NO FURTHER ACTION SITES

SWMU 37	FTC-046	Vet Clinic Incinerator
SWMU 31	FTC-048	Demo
SWMU 38	FTC-049	Commissary Incinerator
SWMU 39	FTC-050	Classified Document Incinerators, Bldg. 1430
	FTC-051	Former UST Site, Bldg 9648
	FTC-052	Former UST Site, Bldg 1092
	FTC-053	Former UST Site, Bldg 7500
	FTC-054	Former UST Site, Bldg 8000
	FTC-055	Former UST Site, Bldg 981
	FTC-056	Former UST Site, Bldg 1382
SWMU 17	FTC-058	Jet Spray Washers
SWMU 21	FTC-059	Ind Waste Treat Plant Ponds (Active Site)
	FTC-060	Former UST Site, Bldg 749
	FTC-061	Former UST Site, Bldg 1392
	FTC-062	Former UST Site, Bldg 2392
	FTC-063	Former UST Site, Bldg 2494
	FTC-064	Former UST Site, Bldg 2692
	FTC-065	Former UST Site, Bldg 2792
	FTC-066	Former UST Site, Bldg 3192
	FTC-067	Former UST Site, Bldg 8200
	FTC-068	Former UST Site, Bldg 8300
	FTC-069	UST Site Pinon Canyon Maneuver Site
	FTC-071	Former UST Site, Bldg 1100
	FTC-072	Former UST Site, Bldg 700
SWMU 26	FTC-073	Equalization Basin, Bldg 1399 (Active)
SWMU 165	FTC-077	Battery Neutralization Pit, Bldg 8110
SWMU 166	FTC-078	Bldg 8110 Wash Rack
	FTC-081	Former UST Site, Bldg 638
	FTC-082	Former UST Site, Bldg 2992

FORT CARSON IAP SCHEDULE

(Based on current constained funding)

Current **Future**

SWMU 2, FTC-006	RFI/CMS						
	CMD						
	CMI(C)						
	LTM						
SWMU 4, FTC-008	RFI/CMS						
	LTM						
SWMU 5, FTC-009	RFI/CMS						
	DES						
	CMI(C)						
	LTM						
SWMU 7, FTC-011	RFI/CMS						
SWMU 8, FTC-012	RFI/CMS						
	DES						
	CMI(C)						
	CMI(O)						
	LTM						
SWMU 9, FTC-013	RFI/CMS						
	DES						
	CMI(C)						
	LTM						
SWMU 11, FTC-015	RFI/CMS						
SWMU 45, FTC-017	RFI/CMS						
	DES						
	CMI(C)						
	LTM						
SWMU 46, FTC-018	LTM						
SWMU 13, FTC-020	RFI/CMS (gw)						
	DES						
	CMI(C)						
	LTM						
SWMU 24, FTC-021/022	RFI/CMS						
	CMI(C)						
	LTO						
	LTM						
SWMU 55-111, FTC-023	RFI/CMS						
	DES						
	CMI(C)						
SWMU 50, FTC-024	LTM						
SWMU 14, FTC-026	RFI/CMS						
	CMI(C)						
	LTM						

FORT CARSON IAP SCHEDULE

(Based on current constained funding)

Current **Future**

SWMU 34, FTC-032	LTM						
SWMU 53, FTC-033	RFI/CMS						
	DES						
	CMI(C)						
	LTM						
SWMU 25, FTC-040	RFI/CMS						
SWMU 54, FTC-041	LTM						
SWMU 51, FTC-043	LTM						
SWMU 27, FTC-044	RFI/CMS						
SWMU 29, FTC-045A	LTM						
SWMU 30, FTC-045C	LTM						
SWMU 19, FTC-047	RFI/CMS						
	LTM						
SWMU 31, FTC-048	RFI/CMS						
SWMU 16, FTC-058	CMI(C)						
	LTM						
SWMU 164, FTC-070	RFI/CMS						
SWMU 36, FTC-075	LTM						
SWMU 18, FTC-079	LTM						
SWMU 167, FTC-083	RFI/CMS						
	CMI(C)						
	LTM						
SWMU 168, FTC-093	RFI/CMS						

Remediation Activities

COMPLETED REM/IRA/ CMI(C):

- 52 used oil underground storage tanks (UST), removed 1991-1994.
- FTC-058, Former Vapor Degreaser Area, removed 1992, replaced with non-hazardous jet spray washers.
- FTC-061 & 063, UST, Bldg. 1392 & 2492, UST removed, September 1993
- FTC-052, Soils at former UST Site, Bldg. 1092, FRA, completed June, 1993
- FTC-056, UST 1382 Area, Final Remedial Action of USTs and Soils, completed September 1992
- FTC-017, R-1, Open Burning Area, Installation of a new excess propellant burn area, 1995. (IRA)
- FTC-006, Landfill 2 (1960-1978), regrading and surface water controls, 1998
- FTC-073, Equalization Basin, reactive sludge removal, 1998
- FTC-005, Landfill1, drainage channel contruction, 1999
- FTC-055, UST Site (Bldg 981), removed contaminated soil, 1999
- FTC-009, Landfill 5 (1946-1956), composite cap, 1999
- FTC-020, Grit/Oil Pit, temporary cover and product removed, 1999
- FTC-009, Landfill 5 (1946-1956), evapotranspiration cap, 2000
- FTC-010, Landfill 6 (1942-1945), waste removal, 2000 (OMA)
- FTC-017, Range 1, Open Burning Area, Removal of Burn Pit, 2002
- FTC-018, Range 1A, burn trench removal, 2001
- FTC-019, Sludge Trench Pit, pit removal, 2001
- FTC-021, Fire Training Area, Removal of Oil/Water Separator, 2001
- FTC-033, Building 8000, Free Product RemovaL, 2002

CURRENT REM/IRA/ CMI(C):

- IRA at SWMU 53

FUTURE REM/IRA/ CMI(C):

- CMI(C) at SWMU 2, 5, 8, 13, 24, 45, 53, 55-111

Community Involvement

RESTORATION ADVISORY BOARD (RAB) STATUS

In 1994, Fort Carson was in the process of voluntarily forming a Restoration Advisory Board when a local environmental organization petitioned the installation to form one. Initially, community involvement in the RAB was high, but has since declined. Information given to the public has increased the trust level of the community and RAB members.

Fort Carson's RAB was established in 1994 by Fort Carson in order to educate and inform interested citizens about Fort Carson's environmental restoration activities, and for representatives of the surrounding communities to provide input to Fort Carson for consideration in the environmental restoration decision making process. It is a citizen-based advisory group that provides the installation input for community decision-making that will be responsive to community needs and concerns. The RAB is also charged with distributing information about environmental restoration to the communities it represents.

Progress reports on corrective action processes and technical support to the RAB are key factors in promoting informed and valuable reviews and comments from this group. Public meetings are held, as appropriate or required, in order to provide additional forums for the community to provide their input. The community co-chair or a RAB member is invited to attend Fort Carson's annual IAP Meeting and provides input regarding the community's environmental restoration priorities. RAB members have been participants since 1997.

In December 1998, letters of introduction were mailed to the new neighborhoods that have formed in the past three years. These are to the immediate west and north of the Installation. As a follow up, Fort Carson conducted interviews with 11 respondents. The Community Involvement Plan also fullfills a requirement of the RCRA Part B Permit.